# **IRON** WARRIOR

THE NEWSPAPER OF THE UNIVERSITY OF WATERLOO ENGINEERING SOCIETY

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# **CPATT Collaborates with NWT for Capstone Project**



Prof. Susan Tighe, Bailey Humphrey, Michelle Liu, Siva Tharmabola, Kurtis Hubert, Binay Yadav, and Kamran Ata; taken on March 22, 2018.



Tharmabala (superstructure design), and Bailey Humphrey (superstructure design). The FYDP was administered and evaluated by Prof. David Brush, PhD, LEL (W2018) and Prof. Wayne Parker, PhD, P.Eng. (S2017) in the Department of Civil and Environmental Engineering (CEE).

verbal and written guidance in structural (800 hours) by over 50%. design.

#### **Project Timeline**

#### Site Visit (August 2017)

The collaboration between CPATT and The FYDP was carried out between GNWT allowed for a site visit which took

The Centre for Pavement and Transportation Technology (CPATT) recently collaborated with the Government of Northwest Territories (GNWT) on an undergraduate Fourth-Year Capstone Design Project (FYDP) focusing on sustainable design solutions for the future Tlicho All-Season Road (TASR). This specific project allowed the students to complete the required capstone design courses while taking part in a real-life, ongoing project that involved working with a large group of industry professionals and a funded trip to Northwest Territories.

MICHELLE LIU

CIVIL '18

#### **Project Team**

The project team was supervised by Prof. Susan Tighe, PhD, P.Eng. and comprised of four undergraduate students: Michelle Liu (project management and road design), Kurtis Hubert (substructure design and 3D renderings), Siva

#### Acknowledgment

This collaboration was made possible by Mr. Kevin McLeod, P.Eng., Director of Highways and Marine Division of the Department of Transportation (DOT) in Northwest Territories. Throughout the project, the students were supported by Mr. Binay Yadav, P.Eng., Mr. Kamran Ata P.Eng., Mr. Ziaur Rahman, P.Eng., Mr. Stewart Gibson, and Mr. Muhammad Abu Bakar, among other staff members of GNWT Department of Infrastructure (DOI). The team also received assistance from an external consultant, Dr. Bala Tharmabala, P.Eng., PhD who is Head of the McIntosh Perry Bridge Engineering Office in Burlington and former Bridge Office Manager at the Ministry of Transportation (MTO). Dr. Tharmabala assisted the team by providing both

May 2017 and March 2018. Preliminary design work took place between May 1st, 2017 and July 24th, 2017 (S2017). Detailed design work took place between January 8th, 2018 and March 26th (W2018). During their co-op work term (F2017) between the two phases, the students continued to work on the project by consistently following up on data transfer, learning relevant design software, and so on.

Prof. Tighe and the four students travelled to Northwest Territories for site visit between August 8th, 2017 and August 11th, 2017. Mr. Yadav and Mr. Ata travelled from Northwest Territories to the University of Waterloo on March 22nd, 2018 to deliver a guest lecture, tour CPATT labs, and participate in the Capstone Symposium.

In this ten-month period, the four students logged a combined time of 1,231 hours in project-related work, which exceeds the FYDP requirement

place following the preliminary design phase. On August 8th, 2017, the students travelled from Toronto to Yellowknife and met with Mr. Yadav, Mr. Ata, and Mr. Gibson the day of for general project discussions. On August 9th, the students met with Mr. Gibson in the morning for a short briefing, then embarked on a three-hour flyover aboard a Summit Air seaplane with Mr. Gibson. During the flyover, the team conducted aerial observation of terrain type and density of vegetation along the approved alignment of TASR (and alignment of existing access road), as well as the approximate location of the bridge to be designed (La Martre River crossing). The team noted extensive signs of a recent forest fire near the start of the alignment, and a high density of esker and pond formations midway into the alignment.

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## I'm Now Calling These Written Podcasts



HASAN AHMED EDITOR-IN-CHIEF

Just kidding. Alright so thanks for picking up a copy of the second issue of the Iron Warrior. For this issue, I want to extend my thanks to Leah, who helped out with comics for this issue. If you ever want to be featured in this paper with a comic, shoot me a message/drawing and I'll probably put it in. Samridhi once again is really helpful during production weekend, and major shoutouts to Michelle Liu for writing the front page article. Be sure to check out all the aforementioned bits of the newspaper, as well as the Iron Inquisition. This was the first time I did it myself, and I was surprised to get a few bits out of the question. Those involved were really funny and I think it turned out great.

I noticed some clerical errors in my last issue, particularly with the EngSoc calendar: coffe house instead of coffee, 5:30AM – 7:30PM event instead of PM, and an extra space between the time and "PM" of Thursday 24 Charity BBQ. All of these mistakes are not my fault; it's the fault of those who don't check over the newspaper when I send the draft out. Just kidding I love you all, but I tend to be a bit stringent when I can. I don't like the idea of being a perfectionist, but that doesn't mean I can't be perfect in some instances in my life. And I messed up the EngSoc calendar with 3 small clerical errors. I have failed you all.

Voting is next week. Go vote. I'm travelling back to my hometown to vote in my riding as well as see my family, so be informed please. Aaron Propp gave a good summary last issue about the different parties and what they stand for. As this issue releases, voting day will be the following day. Get your voter cards, IDs, and anything else that you need so that your politician of choice can win in your riding.

Fun fact about me: this is the first time I'm getting interviews in first round (not counting a coding challenge I received in 2A). And I have quite a few interviews. It feels nice to actually have something going for me, as obtaining a co-op was always the hardest part of university for me. But things are looking good. Just keep putting hard work in and some results will surface. However, this means wearing a suit pretty often and it's getting really hot now. That means the same suit pretty much every day. I also only own one suit and shirt and tie, so I have to consistently wash stuff to ensure I'm not smelly, but at least the interviews have been going pretty well. I love wearing suit pants; I find them really comfortable. I like really tight, hugging pants, and accompanied with the professional appearance of a suit, the confidence build helps for interviews. Doesn't help as much when walking between classes, especially since I'm still going to be fasting for

a little more interesting if you want. Try putting some ice cubes in your water bottle, or a slice of lemon or other fruit. Sparkling water is also a good choice. While the taste is somehow bad, my sister enjoys it for some reason and shares the idea of a cold aluminum can on your skin cooling you further. Second, carry a small Japanese fan. I have two, and they are super duper clutch. I was waiting for a lab to start just on Thursday, and the hallway outside the lab was blazing hot, so I was able to use the fan to cool me and my friends. In orientation week 2016, I used this fan liberally, which even coined me with the nickname "fan guy" in my residence. Third (which might be a little persuasive, but trust me) is to not skip class. I know some of these places around the university have no air conditioning. Although a fan may help, it can only make the air so cold. Which is nice if you have a small room like mine, but the benefits of going to class to sit in an air conditioned room outweighs a small tower fan. Sitting in class underneath the cool air vents will ensure your sweating is kept to a minimum. Finally, a more optional solution is to move way up north. It's pretty cold there right now, so just leave and never return. Enjoy the bliss of cool weather as long as you can. If anything, just come back to Waterloo in the winter to return to the same cold, harsh winds.

Rant time: work to do. I've got a work term report to edit and bind (due Wednesday), interviews everyday apart from Monday, a lab due during midterm week, a lab this week to do a pre-lab for and write a report which is also due during midterms, and oh yeah, another lab during midterms. Such is the life of a Nano student. I also have to go home and vote, and on top of all that I have to study for midterms, and also make sure I get articles for the issue that will be prepared the weekend after midterms. How am I going to get through this? I don't know but I've done it before so I'll just do what I regularly do? Right now I have a tunnel to go through, and the light at the end of that tunnel is rankings. I currently have a job offer from one of the companies that interviewed me, so hopefully if everything else fails for the other companies, I can take solace in the job that has already given me an offer. Also, it's a good company I would work for, so it's a win-win. My family's also been super helpful in this respect so big shoutout to them. Love ya.

Let's talk about Shinwa. This isn't a paid advertisement or anything, but I just tried it vesterday, and honestly for a plaza restaurant it's not bad. I tried the Shinwa fried rice, and although the rice was a little bit hard and not super flavoursome, with some chili sauce it was good. Also the shrimp in the rice was plentiful; they didn't' skimp out, and I finished the whole thing in one sitting. I'm definitely going back there. It's definitely above Aunty's and other terrible restaurants, but I'd still put it below some of the more popular ones (even Lazeez to be honest). However, I've only tried one dish, and will have to sample more dishes to get a better idea. The interior looks nice, and apparently they also serve halal meat, which is a huge incentive for me to go back to try more of their dishes, like the soups and chow meins. I'm a huge fan of Asian cuisine,

and there's some hakka dishes on the menu I want to taste. I'll probably go tonight and eat out again even though it's not amazing for my bank account. But whatever, I'm young, hip, and full of life. One problem with this restaurant (which isn't really a problem) is that they surcharge on credit and debit under \$10. So I recommend paying cash over there if you get a chance. Although this kind of sucks, it's not exactly uncommon, and the server I interacted with was really nice and I left a generous tip.

While I'm talking about the plaza, I'm going to mention my current best plaza deals. Shawarma plus 2 for \$14 (I think used to be \$10) is awesome, and the Pita Factory factory dinner is pretty good. Kabob Hut also has a biryani special on Friday that regularly sells out, so eat it soon if you have the chance. Subway's sub of the day is always a good choice, and combo'd, can be a pretty good meal. Panino's is decent if you consider you're paying for two meals due to the portion size, and if you get a lot of Sriracha, you can up the flavour of the dishes. I'm pretty low maintenance when it comes to food, but I also do have high expectations, but not from the plaza. That's why I always advise to shop for deals here, and cook good food when you can. Plaza's my go-to during exam time too, and although some of these places close at 11:00PM-ish, there's enough places open to give you a good selection at late hours of the night.

Okay now BAD places of the plaza. Again, not like a paid attack or anything, and these opinions are my own, but listen to my opinion if you want. Aunty's: absolutely not. Anyone who knows my personal story with them will know to avoid it. Long story short: H. pylori. Other bad places: Campus Pizza, but only if you store the pizza in the fridge and try to eat it later. Eating it fresh is really the only good opportunity to get a good slice. I tend to judge pizza on the availability to be eaten later, since I like to order whole pizzas and then eat them periodically. And the last place is First Choice Haircutters. Terrible food, but they take coupons, so make your judgement based on that.

Alright your issue-ly word is perovskite, specifically the solar cells. They have the same structure as the actual mineral, and harvest light for solar cells. They're generally lead-based or tin halide based, and a common material is methylammonium lead halide. If you want to learn more, there's a TED Talk titled "Uncovering a radical discovery in solar energy" by Sam Stranks, explaining the potential viability of these structures. Obviously as a Nano, I like this kind of stuff, but if you're in mechanical reading this and want me to share something related to your program, send me an email. I'll include it if it's cool enough. Right now they're pretty much lead-based materials but lead is bad for you kids. Don't ingest it and definitely don't bathe in it. Also, the "lead" in your pencil isn't lead, it's graphite. So join me in saying that you need to sharpen your pencil graphite, or get some graphite for your mechanical pencil. Change the lexicon. Be rebellious. Fight the power.

#### **IRON WARRIOR**

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about two more weeks. So here are some tips to keep cool in this blazing hot weather.

Water. "Drinking lots of water keeps you hydrated and cool." That's a quote I stole from someone named Captain Obvious. Dumb jokes aside, stay hydrated, but make your water

Okay that's editorial two again 19 hours from my own imposed deadline. Sayonara and good luck on midterms.

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# Nicaragua Demonstrates Against Social Reform

#SOSNicaragua and the frustration with Daniel Ortega



Ever since 2007 when Daniel Ortega became President of Nicaragua, the people of Nicaragua have been frustrated by the government. With his wife, Rosario Murillo as Vice President, Ortega allegedly participated in electoral fraud. He controls most of the government institutions apart from national assembly, supreme court and the army. As soon as he became president, Ortega changed the constitution to permit indefinite re-elections. To top it all off, Ortega made a social security reform where the employed pay more tax and pensioners get less pension than before.

Around April 19th, the Hashtag #SOS-Nicaragua surfaced on Twitter. This was because of the protests that were happening around the country which led to the deaths of two university students. Two police officers and a journalist also lost their lives to the cause. By April 25th, the death toll had reached 34 people. All around the country, government supporters attempted to suppress the demonstrators after the reform.

On May 29, 2018, CNN reported that Nicaragua has adopted to a "shoot to kill" policy against the demonstrators which has lead to a huge number of deaths around the country. According to a report by Amnesty International, the government has violated citizens' human rights, used "excessive force in the context of the protests...[and] possibly carried out extrajudicial executions in conjunction with pro-government armed groups." form, the Inter-American Commission on Human Rights has estimated at least 76 deaths, with 900 injured. The reform has been withdrawn but the unrest continues. The number of deaths makes this protest the most severe civil unrest in the country ever since the civil war ended in 1990.

The government has also been accused of using armed mobs to keep the demonstrations under control. Amnesty has received the information that the "Nicaraguan government has used armed individuals or pro-government armed groups that act in collusion with state officials, in particular the National Police, or with their acquiescence or tolerance." These mobs are called Sandinista turbas and dress in an attire that associates them to the government and sometimes ride on motorbikes. The government has reportedly used these mobs to attack people and make threats.

According to Amnesty International, a

London-based non-governmental organization which focuses on human rights, the government is handling with the perspective of punishing individuals that are dissenting the authorities. It will be a better idea to have an impartial party come into the country to investigate the state. Human rights and freedom of expression needs to be respected in this scenario and the Nicaraguan government is doing the exact opposite of that.

As for the residents of the country, they are demanding that President Ortega be removed from power. The also want the reform made to the constitution regarding indefinite re-elections be reversed. Democracy needs to be restored in Nicaragua and Ortega is not the way to go. Amidst this unrest, the area around Polytech University of Nicaragua is facing the most attacks during demonstrations, and students seem to be facing the brunt of it all.

While the Nicaraguan government has reported around 15 deaths since the re-

# **Prof.** Personalities - Douglas Harder



How long have you been teaching at Waterloo?

I've been teaching here since 2002.

#### What courses do you teach?

I teach ECE 204A and 204B (Numerical Methods), ECE 250 (Algorithms and Data Structures), MATH 211 and MATH 212 (Advanced Calculus for Electrical Engineering), MATH 215 (Linear Algebra), MTE 241 (Real-time Systems), and NE 216 and NE 217 (Advanced Calculus for Nanotechnology Engineering).

#### Favourite course to teach?

I really like the Linear Algebra course, but the Algorithms and Data Structures course is also fun. So is Numerical Methods. I don't have a favourite per se.

#### How'd you end up as a lecturer?

It started before then. I joined the reserves and when I took my infantry section commander's course, part of that is learning how to teach. You spend a week preparing lecture plans and delivering those, getting every single aspect of your lesson plans nicely cut out. And then as a master corporal you give lectures and you teach courses. I learned how to teach from the military. Then I did my undergrad and my master's. I started working at Waterloo Maple. This opportunity opened up at Waterloo for lecturer position in ECE. I applied for it. Part of the interview process was to deliver a lecture in front of a class. They evaluated you compared to the other applicants. I got the position. And the rest is history.

uations come from students who are caught plagiarizing because they grade you one out of ten on your ability to speak English.

#### **Teaching philosophy?**

Very methodological. I can always find the path of understanding. We are learning this concept. We know this concept because we have previously learned this concept in this order. I guess the colloquial term these days is scaffolding. You are always building up on previous knowledge. You are always making sure the student has that previous knowledge. I guess the easiest way to explain it is making sure there's a path from A to B and the path is reasonably clear. As well, giving students the opportunity to go from there. The last project in the Algorithms and Data Structures course is always somewhat of a contest. Students don't go for awards or for extra marks. They go for either monetary prizes which I award or free dinner or both, depending on whether or not they can beat me.

### If you weren't a lecturer what would you be doing?

I'd still be working at Waterloo Maple. It's a great place to work. For mathematicians it's great, it's one of the few places where you are one of the more important players. As a mathematician/programmer, you tend to be a service for another group. Whereas at Maple that is the entire point of the company. That was a lot of fun. Great people, challenging problems and interesting problems. You can do things your own way, interesting people to talk to. They have a gym onsite. course, pass it. Don't let us set up the rungs. Figure out what your final goal is and then as you take classes, you can see how they point to your goal. Or helps you achieve your final goal. It's more difficult in math because in math, I at least did not understand what the final objective was.

You can do five exams in two days. It's possible. It was one of my best terms. One of my Bulgarian friends had a great saying from his culture: "The higher the bar, the higher the dog jumps." I tried to do that for myself as well.

There's nothing wrong with failing a term and repeating it and doing well.

#### Favourite memory of undergrad?

IRS (Iron Ring Stag) breakfasts. I get invited once and awhile. IRS is always the highlight of the year. When you see what the students come up with as nondestructive entertainment. The funniest was a circuit that just makes a beeping noise every ten minutes. They threw them into the ceilings. At first it sounds like an interruptible power supply.

### Tell me about chasing down a student for cheating?

That was prior to the days I checked every student individually for their own ID. In this case the TAs checked the IDs of the students and missed something. And would've missed something. Except I require all students to remain seated until all exams are collected. Easy enough. That way I can ensure no one walks out with an exam and I don't have to count the exams afterwards. As long as every TA picks up one exam from each student, there can only be all the exams collected. So in ECE 250 in the fall, it must have been late October, it was an evening exam. So it was quite dark outside.

At the end of the exam I asked students to remain seated until the exam was collected. One student got up. I said "you there, sit down." All I wanted him to do was sit down. He kept on walking. I pointed to him again, "you there sit down now." Well he starts running. So I ran after him. And he's running. I'm fortunate I have some great TAs that term. I trust them, they collect the exams in my absence. Anyways, I started running after this guy and this guy was sprinting. I was just maintaining a steady pace, running on the edges of my feet so as to be quiet. He assumed I stopped. He started walking. I'd slowly catch up. He'd see me again, he'd start sprinting again. This is not a good idea for sustainability in running. He runs across Columbia street and he essentially collapses right next to Columbia Lake. I catch him in the fetal position, so I guess I am one of the very few people who's chased another human being to exhaustion. At this point, I was more worried about his health than anything else. I asked him he wants some water, I lectured him on professionalism.

Then I ran back after he said that he was OK. I'm there talking with the class rep. I'll skip part of the story. "By the way, who was that" I asked the class rep. And the class rep looks at me and says "we don't think he's in our class." I said some profanity and I start running back. The class rep is on a bike. The guy had not moved more than 50 meters and was leaning against a light post. He turned out to be a graduate student who

#### Favourite part of being a lecturer?

The best thing about being a lecturer is coming up with ways to describe ideas to people who don't yet understand those ideas and having them become enlightened as you present them.

#### Hardest part?

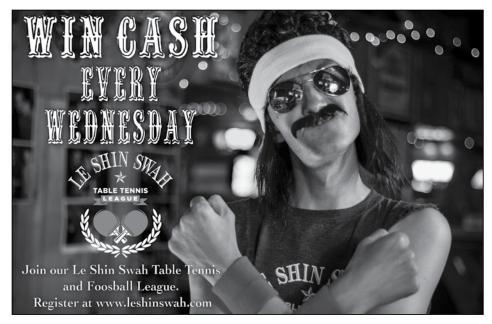
Dealing with plagiarism. Policy 71, which deals with academic misconduct and misrepresentation. It takes me well over an hour to document and to demonstrate beyond reasonable doubt that plagiarism has occurred. Of course, the frustrating thing is you can always figure out which prof evalInterviews are around the corner. Any tips for engineering students?

Don't talk about why you're so great or why you're so wonderful. Explain why you will benefit the company. Why is worth the company's time to pay you and to employ you over a 4-month period. What are they going to get out of it? That is their interest. You're interested in your self and that's great. But, the company wants to be able to understand what they are going to get out of the transaction. The same thing for applying for graduate studies. What is the professor going to get from taking you on as opposed to someone else?

#### **3 tips for undergrad?**

As early as you can try and figure out what your final objective is for doing an undergraduate degree. What is your final goal? What is your goal in 5 years? Not here's a course, pass it. Here's another was writing the exam for an undergrad.

#### Anything else? Join the reserves!



### Where Will It End, America? Santa Fe High School is the Victim of Yet Another Shooting



HASAN AHMED EDITOR-IN-CHIEF

Yet another school shooting occurred in Santa Fe, Texas on May 18, 2018, where ten people were fatally shot and thirteen wounded. The perpetrator was Dimitrios Pagourtzis, a 17 year old student at Santa Fe High School. Reports from survivors include more gruelling details, including a claim that the shooter was repeating "another one bites the dust" for each victim he shot. Eight students and two teachers were killed in the attack, including Sabika Sheikh, an exchange student from Pakistan. She was laid to rest in Pakistan, and was scheduled to come home shortly after the end of Ramadan, which was about three weeks away from the time of her death. Even in Pakistan,

where gun laws are present but not as enforced, the parents are rightfully calling for better gun control in the United States.

Shana Fisher was another victim in the attack, whose mother said she was rejecting Dimitrios' advances for the past four months. Although his attorney says the attacks weren't targeted, the conclusion can be made that there was a motive behind the attack. Although Pagorutzis has yet to undergo a mental health evaluation, and says he "doesn't remember much of the attack," he remains in solitary confinement, restricted to two 20-minute visits in jail each week. Shana's mother, Sadie Rodriguez, believed it was a targeted attack due to the constant advances he made on her, and the increasing aggressiveness of those advances. She also mentioned that Shana "stood up to him" by calling him out in front of class based on the advances just a week before the

shooting.

This brings up the conversation of incel culture. The father of Pagourtzis claimed he committed the shooting because he was bullied. A lot of disagreements were made, arguing that LGBTQ+ students, among others, are bullied daily and they do not commit mass shootings. The blame is always shifted onto another party, instead of the criminal at hand. Was Pagourtzis an incel? Who cares. He committed a mass school shooting, and was reported to keep the students "he liked" alive, while shooting everyone else. Shana was the first victim. However, the incels on the internet have been responding in gruesome ways, saying the kids who bullied him had it coming amongst other responses.

Do women become complicit by rejecting dudes because they turn them into deranged killers? Doesn't that sound like a terrible sentence? Well luckily the

answer to it is no. Shana had given rejections constantly to the killer, and there is no further discussion. This sort of entitlement is not just sudden, it's manifested over the years and can cause major problems. Guns just make it easier for them to kill.

Speaking of guns, gun control also becomes a heavy topic that is yet again touched on in the American news. Reports say Pargoutzis took the guns from his dad, which counteracts the "responsible gun owner" ideal of the US gun laws. I don't know what's going on in the States; from Kim Kardashian and Donald Trump meeting in the white house to talk about prison reform, NRA trying to "take back orange" as a colour for gun violence, and all around debauchery, one can only hope they straighten something out and offer more than thoughts and prayers, or the midterm elections won't fair well for the Republican party.

## **Tempests** and Actors and ... Bomb Threats?



On Monday May 28, the Stratford Festival's much-anticipated opening night performance of The Tempest was shockingly cancelled when a bomb threat was made against the festival. Audiences and actors alike were hugely disappointed as they were asked to leave both the Avon and Festival Theatres after months of hard work and preparation. 2000 well-dressed men and women milled about and watched police dogs enter the buildings they had evacuated, a drama none had paid to see that evening.

Martha Henry was to star as Tempest lead Prospero, one of only a few female actors to take on the role - a choice which caused a stir in the arts community when it was announced. When asked by the director to leave the theatre due to a bomb threat, she walked out staff in hand to the admiration of many on-lookers. That evening rather than presiding over the stage she was to be found with a group of actors who came together over drinks to offer support and comfort. At the same time in a nearby park, students were seen acting out their own Tempest, reading the script off their phones.

It was with relief that the police reopened the theatre Tuesday morning after declaring it safe once more. However, the Stratford Festival staff say they will be checking bags in future and utilizing metal detectors - an inconvenience to theatre-goers, but one they will learn to put up with for the sake of great performances. In fact, as the ageold saying goes "the show must go on" and the Festival picked up right where it left off opening with The Music Man rather than The Tempest, a show which received 4/5 stars in the Globe and Mail arts review column.

Audiences were also undeterred, claiming they would not be scared away from supporting the arts and the artists who bring them to life, choosing instead to rally and come together after Monday's scare. In fact, the Festival has been selling more tickets than usual – a sign that people will not let threats come in the way of a good night out at the theatre.

If you're free in the next month and looking for a way to spend a fun evening, check out the festival lineup. After all, Stratford is only a reasonable 45-minute drive from the University!

## **Even Restaurants Aren't Safe These Days**



HASAN AHMED EDITOR-IN-CHIEF

On the night of May 24th, 2018, Bombay Bhel, a popular Indian restaurant in the Mississauga area, was targeted by a bomb blast, injuring 15 people. Police say the explosive device was planted by two suspects who were in and out quickly around 10:30PM during the night in question. The device had contained nails, suggesting the spread of impact and potential impalement of the nails. Witnesses described the blast scene as gruesome. After the deafening explosion, Rafael Conceicao, an international student from Brazil, commented on the scene, mentioning that, "everything was destroyed. Lots of blood in the floor. Many people were screaming. They were trying to run out from the restaurant. There was a guy with glass inside his eyes." Police had quickly closed off the entire area and deployed a tactical team, and one officer was described to call for a drone, according to witness Jess Dalessandro, who was parked in the lot, and wasn't allowed to move her truck out of the lot on Friday morning. Two pieces of footage were released, showing the suspects fleeing from the scene. One was potentially a female suspect, but no further identifications were made. No clear motive was indicated for the attack as far as police know. It is not known or suspected to be some sort of terrorist attack or targeted bombing.

There was no claimed responsibility by any group, so nothing is known until the suspects are identified. It was suggested the attackers ran into a vehicle to escape quickly after fleeing from the restaurant, concealing their identity with dark clothes and hooded sweatshirts covering their faces. Since they haven't been identified, no charges have been placed, but it would include attempted murder if they are to be caught. Fingerprints and DNA have been collected and sent to the province's Centre of Forensic Science for further analysis. Most likely, more details

will be provided upon investigation of these identifiers.

15 people were sent to the hospital that night. Fortunately, everyone who was injured in the attack was treated in the hospital and were all released within 24 hours according to police. However, on the downside, the restaurant itself sustained damage, and is closed until further notice (the other locations are still open). The investigation has since been closed at the restaurant, but some information still needs to be obtained, and as far as they know, the two perpetrators

are still at large.

Bombay Bhel's owners shied away from the media following the explosion as they did not want to "stand in the limelight" or be seeming to exploit the victims' situations for their own gain. However, a statement was released by the owners on Facebook shortly after, condemning the attack, and saying "how relieved we are that all 15 people ... have been released from the hospital ... We have been serving our customers for over 30 years and will do so for another 30 years."



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#### CPATT Collaborates with NWT for Capstone Project

#### Continued from page 1

Also observed was the shallow and rocky nature of the pre-determined crossing location at La Martre River, a narrowing point in the river where velocity is increased and where ice buildups can occur in the winter.

On August 10th, the students were joined by Prof. Tighe and the team proceeded with more project discussions with Mr. McLeod, Mr. Yadav, Mr. Ata, and Mr. Gibson, including the feasibility of some of the preliminary design results. The team was also given the opportunity to explore Yellowknife, including visiting the farmer's market and kayaking in the Great Slave Lake.

#### Capstone Symposium (March 22, 2018)

On March 22nd, the day of the CEE Capstone Symposium, Mr. Yadav and Mr. Ata travelled from Yellowknife to the University of Waterloo. In the morning, Mr. Ata delivered a wellattended presentation in the Needles Hall Senate Room on some of the current projects in Northwest Territories and the unique challenges they face. Potential employment opportunities with GNWT were also discussed and were of interest to many.

The four students joined their class Capstone Symposium in the Davis Centre (DC) atrium from 12pm to 5pm where they presented their project poster and 3D-printed model to various faculty members, industry professionals, and fellow students.

While the four students were at the Symposium, Mr. Yadav and Mr. Ata were taken on a tour by Dr. Peter Mikhailenko, PhD, EIT, and Drew Dutton, a MASc candidate with CPATT. The highlights of the tour included the CPATT mixture

and binder labs, where they were introduced to various equipment and talked about NWT labs. A number of CPATT projects were discussed, with the work on Hydraulic Road Binders of Shenglin Wang (CPATT PhD candidate) being of particular interest.

#### **Technical Summary Of Capstone Project**

Whatì is an indigenous community of around 525 people in the North Slave Region of Northwest Territories. The only existing vehicular access to the community of Whati is the Tlicho Winter Road, which operates on deeply frozen portions of the Great Slave Lake during wintertime. However, climate change has caused a decrease in the reliability of winter roads, and an allseason road was deemed necessary in 2013 by the Department of Infrastructure of Northwest Territories and the Tlicho Government. Challenges faced by the future TASR include permafrost, presence of weak subgrade, and proximity to caribou habitats.

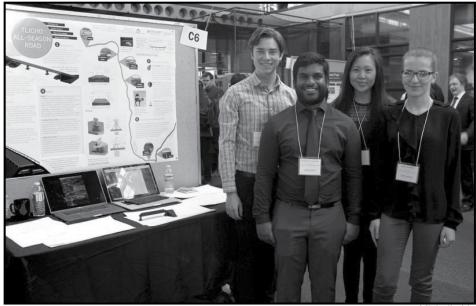
The project was carried out in two phases: preliminary design and detailed design. In the preliminary design phase, a post-tensioned concrete bridge, a steel I-girder bridge, and a timber arch bridge were developed as alternatives for the bridge structure. The concrete bridge consists of a concrete superstructure tensioned by continuous steel cables within circular voids. The steel bridge has a concrete deck supported by longitudinal steel I-girders. The timber bridge is made up of twin glulam arches connected to transverse steel ribs that support a timber deck structure. Conceptual design was conducted for the bridge alternatives, taking into account major constraints such as the presence of discontinuous permafrost, flooding

events, and erosion.

Each alternative was then evaluated against the criteria of environmental impacts, resiliency, and cost. The posttensioned concrete bridge received the highest score in the comparative analysis and was selected to be carried forward for detailed design. However, in August 2017, the GNWT team revealed that the equipment and skill required for post-tensioning is not readily available in NWT and recommended that the team proceed with a steel structure.

The scope of this detailed design included three representative road segments and the bridge crossing at La Martre River, which is the longest crossing on the pre-determined alignment. Three representative road segments were selected, each with an identified problem related to resiliency, environmental impact, and constructability. Three main solutions were thus proposed:

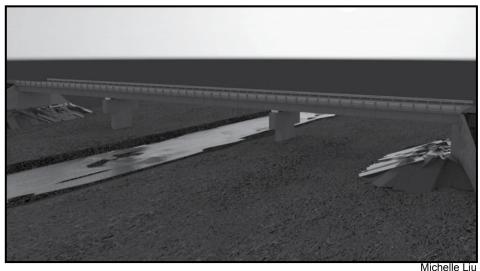
geotextiles, hairpin thermosyphons, and designated caribou crossing zones. The pre-approved horizontal alignment was used to determine the vertical alignment that would require minimal fill while still meeting all design criteria. Some criteria are sourced from Geometric Design Guide for Canadian Roads while others are NWT-specific parameters. Following geometric design, the Gravel Road Thickness Design Methods were used to calculate the most economical combination of granular layers. Both the superstructure and substructure of the steel bridge were designed using the Canadian Highway Bridge Design Code. Superstructure elements designed include guardrails, deck reinforcement, girders (flanges, and webs), stiffeners and diaphragms. The substructure was designed to resist overturning moment and sliding action while not exceeding the bearing capacity of the subgrade.



The project team with their capstone poster, from left to right: Kurtis Hubert, Siva Tharmabala, Michelle Liu, Bailey Humphrey

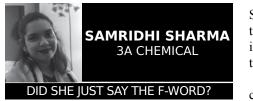


3D rendering of proposed solution for road segments over permafrost



100-metre steel bridge design located at La Martre River

### Mansplaining 101 The Guide to Knowing More Than Me



"I'm more of an expert than you, and I'll tell you why. I'm a guy, and I know how we think! More than you guys will ever know. ... The bottom line is this, ladies: You would not care if all these guys were hot. They would be bolstering your self-esteem, bolstering your ego, there is nothing more that a woman likes to hear than how pretty she is." These words of wisdom were uttered in 2014, by an all-knowing Steve Santagati on CNN. To give context, this was in response to a video about catcalling. Our friend Steve believes, with more conviction than necessary, that catcalling is okay if instigated by pretty men. Let's collectively think about this for a second.

Ironically, Santagati, also wrote a book called Code of Honor ... well, it was really called Code of Honor Women: The Ten Commandments That Define All Bad Girls. Oh, that's why he thought he knows more about women than other women - he wrote a 140-page novel about the rules bad girls live by. Of course, he knows more about me then me. I should probably retract this whole article and start working on a formal apology letter to him instead. But before I do that, what about us good girls, Steve? How do we live? Now that I know bad girls have your commandments to follow, my life as a good girl has no purpose.

Butalas, Steve is not the only mansplainer there is. Shall we talk about Kanye West for a minute? In September 2009, Taylor Swift won a VMA for Fearless, an album a lot of us, as teenagers, felt really moved by. During her acceptance speech, Kanye felt the need to climb on up, and bring the whole party - ironically - South. As Kanye stood on the stage, explaining to everyone why Beyoncé should have won, our palms just collectively hit our faces.

Kanye, buddy, we were amused when you walked out at the 2004 American Music Awards after not having won an award. We also tolerated your eloquent whining about losing in 2006. But when you belittled a 19-year old for winning over Beyoncé, when even Queen Bee did not express disapproval, was just breaking the girl code. Now, I am not saying you

should read the Code of Honor by your friend Steve Santagati, I'm just saying that it won't help at all.

Since, mansplaining seems to be a huge part of our lives these days, consider using the following techniques to avoid being mansplained. If interrupted during conversation, try screaming at the top of your lungs until noticed. Running away while screaming is recommended but not required. In case you are told to smile more, quote Dwight Schrute from The Office, "Showing one's teeth is a submission signal in primates. When someone smiles at me, all I see is a chimpanzee begging for its life." and walk away. If that still does not deliver the message, it is helpful to obtain dragons, build an army, and become queen of your own empire.

### How To Vote

A Last-Minute Guide For The Unprepared



Dear Students of the Waterloo campus, As you have no doubt noticed, big yellow X's have started sprouting around town. On posters in hallways, on the sides of convenience stores, maybe even on your street. These are not marks for demolition, please do not be alarmed; all hallways will continue to have the correct number of walls (2).

It is in fact that a strange mythical time is upon us, a time prophesised by those who came before us: time to express your opinion - for once someone is asking and looking for an answer! Yes, it is Elections Season.

This season is not for steaks, it's for choosing a new leader for this great province of ours. This season is for searching deep into your soul, buried deep beneath false apathy, a jaded view of life, and a lot of crumbs, to find that nugget of Values you hold dear. Take these values out. Polish them off, they should shine up pretty nice. Take a good look at them under a microscope.

Now you're ready for the next step: comparing these values to party platforms. This sounds gross, I know, because it sounds like it requires heavy research on your part. I'm here to reassure that this is not the case! I mean sure you could spend half an hour (10 min) on "Vote Compass" figuring out where your values align most, but a brief Google done by me five seconds ago reveals that you can pick a party based solely on your favourite colour! Someone has nicely given each candidate a colour to represent their platform, and this can be used to decide where you should put an X come June 7.

Alternatively, you could decide where to vote based on your risk tolerance. This is something you will have come across if you've done any investing with money before. If you dislike risk and want things to continue as present, not a bad option, quite comfortable, vote for the person who's been there for the last while. If you prefer adding some risk to your juice, spice things up by mixing in a new player - we don't know what they'll do but it could be interesting to watch.

Now you've got an idea of where to cast that ballot, take a walk over to Elections Ontario (just Google it, I'm sure you won't click the wrong thing). If you have voted before, you're probably registered. If you are over the age of 18, you're also probably registered. MAKE SURE. Click the large and intimidating yellow box that says "Confirm your voter information", then when they ask if you're registered, because we want to be certain that we live in Ontario and can vote, click "Let's Check" as though we're all in this together. Quickly skip the giant block of text saying something about "privacy" and click "Next". Once you have filled in your info, check that your birth year is correct because they designed this website to allow you to scroll through the years while you're scrolling down the page without noticing and then you'll have to go through this whole process five times internally screaming "HOW CAN I NOT BE REGISTERED I'VE VOTED BEFORE!!" until you realize your birth year is 1965 and you're definitely not 47.

Once you click "Search" we hope you get taken to a page that displays your info and says "I'm glad to see you are registered to vote, congratulations!" but might just say "We found you", or worse still "You don't exist" in which case you should check your birth year. In all cases except the last (in which case you should get on that registration train!) tell them to confirm your info and you're all set! Happy voting!

In all seriousness, register to vote and use your voice, we only get to be heard once every four years, make it count!

### **Trudeau Buys Trans Mountain Pipeline** Liberals Empty Their Pockets to End the Deliberations

AARON PROPP **2B COMPUTER** 

The Canadian government has made a \$4.5 billion pledge to purchase the Trans Mountain pipeline. The Trans Mountain pipeline is an extension of an existing pipeline that takes crude oil from Alberta and sends it to British Columbia. The Alberta oil can then be sold in international markets.

A little bit of background as to how the Trans Mountain pipeline went from being a Kinder Morgan project to being owned by the federal government. John Horgan, the leader of the BC NDP, became premier on July 18 of last year after forming an alliance with the Green Party of BC. In order to maintain the support of the Green Party, Horgan vowed to fight the Trans Mountain pipeline extension. He has mainly done this by asking the Supreme Court if BC has the right to block bitumen shipment over its borders.

Alberta, led by Alberta's NDP Rachel Notley, was none too pleased about all of this. Alberta, fighting back against BC, recently passed Bill 12. This bill would allow the Albertan government to throttle the supply of oil exports to BC. This would have the potential to raise BC gas prices by ten cents a litre. The BC government in response filed a constitutional lawsuit. Notley, noting the irony in this situation quipped "It's very interesting, on one hand they don't want our oil and on the other hand they're suing us to give them our oil." In February, Alberta temporarily blocked BC wine exports.

In light of this backdrop, Kinder Morgan, the company behind the pipeline set a May 31 due date for a conclusive decision to be made about whether pipeline construction can continue. In response to this, the Canadian government bought the pipeline off of Kinder Morgan and are planning to run it in a Crown corporation, until a full-time owner could be found.

A lot is at stake here. Politically, Notley needs the pipeline to be continued or risks appearing weak compared to Jason Kenney, leader of the United Conservative Party, in the 2019 Alberta election. Trudeau for his part needs to show national unity, while simultaneously balancing environmental concerns and Indigenous People. With the election coming up next year, Trudeau is putting his government on the line over the pipeline.

Reactions of the respective premiers are what you'd expect them to be. Premier Notley was jubilant proclaiming to all Albertans, "Pick up those tools folks, we have a pipeline to build." Premier Horgan maintained that a change of ownership did not change his environmental concerns. He reiterated that he was still pursuing the lawsuit against Bill 12, in addition to seeking a ruling from the Supreme Court.

Andrew Scheer, the leader of the federal Conservatives, was not pleased that Trudeau bought the pipeline. He claimed that "the Prime Minister is forcing Canadian taxpayers to pay for his failure," and that Justin Trudeau "is trying to buy his way out of a problem." This raises an important question: was the buy-out necessary to keep the project alive or an expensive bailout? Time will tell.

### J.R. Smith Blunder Leads to Game 1 Loss for Cavaliers LeBron is Less than Happy



HASAN AHMED EDITOR-IN-CHIEF

seen pointing both of his hands at J.R. Smith to take it to the net, but Smith was unaware that they were not ahead, and lead to the quarter ending at a tie, pushing the game into overtime Cleveland could not recover, and the Golden State Warrior stole the victory 124-114.

tion that was less risky in the more-thanenough time that they had. The Rockets ended up winning 102-100, and Smith

liers and facing the Milwaukee Bucks, he left his defensive man wide open during a play after a timeout, which allowed admitted he thought the Knicks were for an open dunk for Tony Snell of the down by two, which his why he went for Bucks. What was Smith doing in the meanwhile? He was hugging Jason Terry; yes, the same Jason Terry that he elbowed just a few years before. I'm glad they settled their differences, but I don't think their teammates fancied much of his antics. This long history of J.R. Smith being ... oblivious marks a reminder of misplays even with the top echelon of players in professional sports leagues. Although it's pretty funny to us, I don't think the Cavaliers are laughing at any of this during the NBA finals. Game 2 is scheduled for June 3, 2018, so let's hope LeBron is in a better mood and J.R. Smith doesn't untie anyone's laces or elbow them in the face. However, if he's suspended for a game or two, the argument could be made that another blunder won't happen, which might be better for the Cavaliers. I'd like to say this is improbable, but it seems J.R. Smith makes the improbable happen. Anyways, cheer for your team, and good luck to both.

I'm going to preface this article by saying I have not followed basketball in well over 10 years, but this moment was so funny to me that I'm willing to put it in the paper.

May 31, 2018 was Game 1 of the NBA Finals between the Cleveland Caveliers and Golden State Warriors. It's not uncommon to see these two teams at the top, and their games tend to be close. It was the fourth quarter with 4.7 seconds remaining, and both teams were tied at 107 each.

Cleveland was in an advantageous position, taking a free throw to which was missed by George Hill, but the rebound was obtained and a chance was given to make a quick two pointer. Seems good right? Well, not when J.R. Smith picked up the ball.

Smith immediately ran out of the free court area into the three point shot zone...and kept running. LeBron was

What spawned from that game was a combination of twitter outrage and ridicule of J.R. Smith. Memes and jokes spread across the social media site, especially those picturing the dismayed LeBron.

The oddity of such a mistake in a professional league might perplex you, but this is not the first time Smith has erred. In another close game back in January of 2014 against the Rockets (back when Smith was on the Knicks), a tie was also the situation in the fourth quarter. The Houston Rockets were on the defense, and with around 22 seconds on the clock, Smith went for a 3 pointer, which rebounded off the back rim and was picked up by the Rockets. A foul was drawn, and although Smith did not commit the foul himself, the blame fell on him for not knowing the score to easily pick up a quick layup or at least set up a situathe three pointer.

Smith was also fined in the past for "recurring instances of unsprotrsmanlike conduct." What is this conduct you ask? Untying shoes. During the Jan 5 2014 game (2 days after the missed free throw in the last paragraph), Smith was caught untying Shawn Marion's shoelace during Dirk Nowitzki's free throw. Although they won the game against the Mavericks that day, just a few days later he repeated the act against the Detroit Pistons. Smith was fined \$50 000.

This isn't the worst damage he's done to an opponent during a game. In the 2013 first round of the playoffs, Smith elbowed Jason Terry straight in the face, earning him a suspension for game 4. Although they ended up winning the series, the Knicks ended up falling to the Pacers later in the finals.

J.R. Smith also seems like his mind is elsewhere during basketball matches. In 2016, when Smith was on the Cava-

# **Appreciate Diversity This Pride Month!**

A History of the June Celebration



The month of June is upon us! And you know what that means – It's Pride month! The streets are a-glow with beautiful rainbows, the sun is shining on all the Pride flags and we are merrily preparing for the Pride parade happening at the end of the month. But believe it or not, it wasn't all fun and games when it first began.

The history of Pride month is a story of discrimination. On June 28, 1969, Stonewall Inn, a popular gay bar in New York City was raided by the police. There were more gay bars in the city but Stonewall was the only bar that had dancing. This attracted a lot of LGBTQ+ visitors. While the police had a justification for the raid – Stonewall

Inn was serving alcohol without a license - it was not uncommon for bars to serve liquor without a license, and it was really common for gay bars to be continually attacked by the police. When a raid happened, all the lights in the bar would be turned back on. People without identification cards or dressed in drag would be arrested and everyone else could leave. Women who would not be wearing at least three feminine articles of clothing would also be arrested. On estimate, each gay bar would be raided at least once a month. The managers, in preparation, would have a hidden stock of alcohol so as to resume business as soon as possible after the raids.

So, what was so different about the raid at the Stonewall Inn? The standard procedure during the raids was to line up all the bar-goers and separate the women and have female police officers identify if any of the women were actually men dressed in drag. But this time, people dressed in drag refused to separate themselves and men refused to show identification. When the police were trying to take everyone to the police station, the crowd began singing "We shall overcome," and fighting arrests, and finally, throwing pennies and beer bottles at the wagons. The number of people grew to a huge crowd filled with anger, frustration, and unity. The crowd became a mob and escalated to a point that the Tactical Police Force of the New York City Police Department had to come in to free the police trapped inside the Stonewall Inn.

Within 6 months of the riots, gay activists started a city-wide newspaper called Gay. This, they thought, was really important because even the most liberal newspaper in the city refused to print the word "gay". June 28th, 1970 marked the first anniversary of the Stonewall Riots. The first ever Pride parades happened simultaneously in Los Angeles and Chicago. More cities joined the next year and the Parade in New York City covered 51 blocks.

This year, if you want to be a part of Pride Month, be sure to check out all the educational, interesting and fun events happening around Waterloo and Toronto. Educate yourself when possible and be aware of the diversity in your community. Toronto Pride Parade is happening this year on Sunday, June 24th. The parade is always a sight to behold and if you decide to march with either EngSoc or The Glow Centre, I guarantee you it will be a life changing experience. If attending the parade is not an option, there are so many events happening around Waterloo. For example, Drag Me to Bomber is happening this Friday, June 8th, right in our favourite Bombshelter Pub. Nonetheless, be sure to bask in the rainbow Pride colours and celebrate your differences this month!

# ESSCO Student Soccer Tournament in Mississauga



A line of figures in black and gold jerseys makes its way slowly onto a field. On the front of the jerseys: the Engineering logo. It's not a sight you frequently see – Waterloo engineers out in the sun running around after a ball, flying our school colours – but this weekend at the Engineering Student Societies' Council of Ontario (ESSCO) soccer tournament you could see just that.

Our rag-tag group was assembled of friends and strangers, on-stream and on co-op, skilled players and people who had benched themselves for a few years. We came together in Mississauga ready to play and represent our university and most of all have a great time. Friday night was the first game; we were facing one of the two Windsor teams and we were short of the eleven players we needed. Luckily for us, and unluckily for them, most of the McMaster team couldn't make it so we absorbed their players to make a full team with one or two subs. That first game we were still getting our soccer legs and feeling out how to work as a team. We lost 10-2. The game ended, and we stumbled back to our hotel for a night in at the pool with pizza to rest up for our three games on Saturday. Saturday dawned cool and cloudy, perfect for a day of soccer. Our numbers also increased miraculously overnight and with the addition of two Mac's and one Queen's student, we were ready to crush the other teams! Our game against Ryerson began at 10:30AM and we started off strong, having learnt some lessons from the night before about where our strengths lie. We swelled our defense up to 5 players, subbed more frequently and cheered a lot. By the end of the game we had lost by less of a margin than the day before and we were feeling pretty swell about our teamwork.

Waterloo players, enough to sub out half our team at a time. We were playing our second game against Windsor and while they were tired from playing a game before, we were well rested (and maybe overly-fed). Somehow, we pulled a "second half victory" as someone on the team termed it. Losing 5-4 but scoring 3 points in the second half to only one goal from the other team!

It was with high-flying confidence that we prepared for our last game of the day, again facing Ryerson. At the same time, Conestoga was going to play Windsor's A team, but with only 6 players it looked like they would have to forfeit. To help out, Mac Eng left our team for theirs and we gave up one of our players for net and they managed to play without too serious of a loss. Unfortunately, this meant your intrepid Waterloo-ians were down subs.

To make matters more severe Waterloo was lagging a bit by this time in the day; the sun was out in full by now, it was our third game of the day and our second in a row. Muscles we hadn't used for months sitting in offices on co-op were starting to cramp. But we played on, persevering as we Waterloo students are known to do against great odds (2B). Ryerson's offense was strong, at times it felt as though their entire team was on our defensive line, but we kept up pressure as the bruises and sunburns we woke up with Sunday morning will surely tell you. We didn't win that last game either, but we damn well put up a good fight.

Both of Windsor's teams chose not to stay in Mississauga for the Sunday games, so Waterloo went home, choosing to end the tournament on our own turf against Conestoga. Unfortunately, not enough players could be called up on the Conestoga team, and those on the Waterloo team were seriously feeling the burn from the day before and reluctant to play again. So our last game is postponed for now, but if you're around when we play again, come out to cheer us on or join the team more are always welcome!

If there's one thing I learnt about this school of ours at the tournament, it's that despite what they say about us we are an athletic bunch who's just out to have a good time! Oh, also that Waterloo definitely has more girls than any other engineering school. Way to go Waterloo, you have officially earned more of my respect.



The next two games were back-toback but didn't start until 1:30 so we hung out watching Ryerson play against Windsor's B team and playing frisbee. By 1:30 we had accumulated even more

Unforunately we won't be participating in the World Cup this Year :(

### Star Wars Episode MMXVIII.5 Revenge of the Midterms



#### KATIE ARNOLD PRESIDENT

ductivity.

As the impending tsunami of midterm week approaches, I sit peacefully in the calm before the storm, very carefully pretending like everything is fine. As my last message to the engineering community before midterm week painfully reminds me there is more to this life than EngSoc, I wish everyone the best of luck in this difficult time of year. May your procrastination never exceed your pro-

We've begun to prepare for the Joint Annual General Meeting, this June 23rd at 6pm. We will be going over a lot of important topics, including the increase of the EngSoc fee, electing the new Board of Directors for the 2018-2019 year, and bunch of important and relevant changes to our governing documents. The meeting is open to all undergraduate Engineering Society members, and we encourage you to come out, and bring 2 proxied votes as well to ensure that we meet the minimum attendance required to run the meeting. There will be dinner provided just before the meeting starts, so hope you can make it and join us!

I'm happy to congratulate Julia Reinstein as the Spring 2018 Chief Feedback Officer. She will be collecting feedback on the Engineering Society Executive and the events conducted throughout the term. There are many ways you can provide feedback, including our new feedback form; bit.ly/FeedbackS18. If you have any questions or want to explore other feedback avenues, you can reach out to Julia at cfo.b@engsoc.uwaterloo. ca. Good luck my friends, May the Force Be With You.



### Marketing, Marketing, Marketing! The Behind the Scenes Team That Likes to be Seen!



### **GRANT MITCHELL** VP COMMUNICATIONS

Marketing is a key part of day-to-day operations of the Engineering Society and it takes a large team to make it run smoothly. Our team of marketing, media, and social media directors are always working to make the awesome posters you see, post about all the events we host, and take amazing pictures of all of you throughout the term.

While the marketing team is doing a great job, we know that we have some room for improvement and this term we are looking for all of your help. This term we are going to be rolling out two surveys to get your opinions on our social media and on our LCD screens so that we can make them as effective as possible going forward. Please make sure to keep a lookout for those and fill them out, it will help us to keep you better informed going forward.

This term we are also working on implementing some accessibility guidelines in our advertising manuals. That means using specific colours, fonts, and graphics that are easy to read for everyone to ensure that no one misses out on an event because they couldn't read our posters.

If you have any suggestions on how to improve our marketing or just want to find out more, please feel free to find me in CPH 1327 on Wednesdays from 2:30pm-4:30pm or Fridays from 11:30am-12:30pm. Alternatively, send me an email at vpcomm.b@engsoc. uwaterloo.ca.

Have a great term everybody and enjoy the sun!



So the budget has been approved and directors are operating with a new budget and have begun being reimbursed. This has allowed a variety of events to get off

### **Budget Update** How We Distribute and Handle the Monies

the ground and for the engineering society to assume normal and now I'm assuming I've lost most readers. First, hi Ben or Ashley, I remember one of you said you read this. But for the rest of you I'll try to give some helpful advice for working with me, your friendly neighbourhood VP finance (and potentially future VPFs). First, we deal mostly with money (duh). But this is we write cheques to help you guys run events and make sure events have monies. So this means we can help a lot in the build up to events. But we also run on timelines. This means the more heads up you can give us the better. It allows us to use our years (months, actually but shh) of experience to help make sure you get everything you need for you event. We are also helpful if you need to order stuff for your event or helping with sponsorship and stuff. Basically we can help get stuff in and if you can get invoiced on larger items then we can help you handle that and you can use the engsoc office as a place to ship to that you won't have to worry about being there for the delivery or anything. The long and short of this article is that it never hurts to come in and talk to your VP Finance. We are friendly and ready to help.

		ocoming Ev	<b>Events Calendar</b>				
Wednesday June 6	Thursday June 7	Friday June 8	Saturday June 9	Sunday June 10	Monday June 11	Tuesday June 12	Check out up-to-
Intro to MATLAB 4:30 - 6:00 PM MML DIY Neon Signs	Charity Grilled Cheese 11:30 AM - 1:30 PM CPH Foyer	<b>TalEng</b> 8:00 PM - 11:00 PM Wilf's			EngiQueers 6 - 9 PM POETS		the-day event postings on the EngSoc website at <i>engsoc.uwaterloo.</i> ca/event-calendar/
6:00 - 8:00 PM POETS	Paint Nite 2.0 4:30 - 6:30 PM POETS						

Wednesday June 13	Thursday June 14	Friday June 15	Saturday June 16	Sunday June 17	Monday June 18	Tuesday June 19
WiE: Food Fundamentals 5:30 PM - 7:30 PM RCH 306			D&D 2:00 - 6:00 PM POETS		EngiQueers 6 - 9 PM POETS SkyZone Trip! 5:30 - 7:30 PM	Excel Workshop 4:30 - 6:00 PM MML Board Games 5:00 - 7:00 PM POETS

# B-SOC Exec Don't Need to Hold Their Breath to Turn Purple!

Purple Us for Engineering Day!



ASHLEY CLARK VP STUDENT LIFE

If you read my last article then you might have been waiting in suspense for my exciting news. Engineering Day is happening Friday, July 13, and as always it will be a day full of food and fun as we celebrate the Waterloo Engineering community! However this year the on-term executive team has decided to add in a little fun of our own to support a good cause.

June is Pride Month, and to help sup-

port diversity and inclusion within our community the EngSoc executive team is going purple! Throughout June and the beginning of July, we are raising money for the Trevor Project which provides crisis intervention and suicide prevention services for LGBTQ+ youth. During the fundraiser we will be setting goals in order to dye the executive team purple, one by one. The purple-ing will happen on Engineering Day during all of the other festivities!

Luckily for those interested the first goal is to raise \$500, which will require me to go full purple on Engineering Day. The rest of the executive team will follow; the next goal being to purple our VP Communications Grant Mitchell when we reach \$1000. Our VP Academic, Ben Beelen, will be next when we reach \$1500, followed by our VP Finance, Liam Yeates at \$2000, and finally our President, Katie Arnold, when we reach our ultimate goal of \$3000!

The Waterloo Engineering Society strives to create an inclusive environment for all students. We have our very own EngiQueers club which meets every Monday at 6:00PM in P.O.E.T.S. If you are looking for a supportive community within Waterloo Engineering, consider coming out to the next meeting – all are welcome! Please consider contributing to our cause. Donations can be made at: www.gofundme.com/bsoc-exec-getspurple.



via Pixabay under CC0 License



Imagine this array of executive, but purple! Go donate for a good cause!

### Interviews and Positivity A Few Reasons to Keep Your Head Up

For more information on continuous cy- as you're above the median you're do- okay. If you're not getting interviews

okay. If you're not getting interviews you're not a failure. Keep applying and improving your resume when you can. Compare with your friends, even talk to CEE (Co-operative Experiential Education, previously know as CECA). Good luck to all of you and RIP Jobmine glitch. Note that EngSoc is hosting another resume critique on June 25th, just in time for continuous!



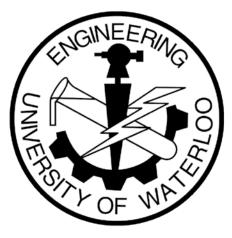
First round interviews are now in full swing! One of our university's best offerings is our co-op and it all starts here (or beyond here I guess)! Reminder that first round interviews end on June 21st and match results will be up on June 22nd, rankings are due on the June 25th. More information on interviews should have been sent to your email titled "Interview protocol," and if you were faked out by that email thinking it was an interview, so was I. Also some third year advice, be very ready to sign up for interview spots as after 10 minutes most of the "good" spots will likely be taken. So monitor your email constantly!

After first round, continuous round begins on June 27th with jobs being posted daily with intermediate interview cycles. cles, CECA does a great job of posting their cycle dates at uwaterloo.ca/co-operative-education/important-dates! If you are looking for employer info sessions which continue well into June, check out www.ceca.uwaterloo.ca/students/ sessions.php?month\_num=6&year\_ num=2018.

Something about interview time brings us all the subconscious competitive nature of what it means to be trying to find the best possible job. What is particularly painful is watching your friends and seemingly everyone around you getting 10-12 interviews where you can't even get one. Getting your resume critiqued by everyone who's above first year with a pulse seems to do nothing, your interview skills have been practiced from birth but what does it matter?

We often find ourselves comparing ourselves to others and especially in engineering. We are one of the only faculties that still provide rankings and "as long ing ok." The reality is that half of us are below that line. Does this mean you're not ok; that's what the above statement implies right?

There's a thing about first round, that if you don't get a job with all the "successful" students, that you're a failure. The reason for first round existing is so that at the end of a month of interviews, you can theoretically have the largest choice in possible jobs to accept. The unfortunate negative of the first round of interviews system is that many, and I mean many, students get zero interviews in first round. This clouds the purpose of first round and bolds the idea that you are suppose to get your job in first round. And these students are not alone, in fact most students in engineering get their jobs in continuous round. Though continuous may not be ideal, there is something to be said for interviewing one day and learning the results on the second. If you're below the median, you're still



#### Are E-books Better Than Printed Books?

**TONY KAPPEN** 1T ELECTRICAL AND COMPUTER

POINT

The e-book. That simple marvel of human engineering. Who could have guessed it's supremacy in the argument of book vs. e-book would ever be questioned. Of course e-books are better. What's the doubt. If there is still any shadow of a doubt in your mind, let me convince you.

If you are like me - a good person, and you love the planet, then e-books are clearly the better option. Where did you think books came from. The sky? No you fool - its trees. Dead trees! I know, it seems so cruel, how can anyone possibly think of killing those majestic creatures. Well its the book lovers that do. Clearly, if you want to prevent another tree from being cut down, then e-books are clearly the better option. Just to throw some figures at you, in the U.S, 30 million trees are cut down each year to print books. Save a life. Get an e-book.

If you are still not convinced (you heartless person, you) I know just what will convince you. Money. No, I am not trying to bribe you. I am only trying to remind of the incredible, ginormous, crazy savings that you get when you buy an e-book or borrow one-permanently from the internet. Where a good old fashioned paperback might set you back about 20 bucks, an e-book will cost you nothing - if you know where to look. Wink wink, nudge nudge. If a textbook from the bookstore costs you an overpriced 80 bucks, the e-book will cost you, again, probably nothing. Again. Wink wink, nudge nudge. Do I really need to say more. This is money people. Money. The stuff of life. The fruit of your co-ops. Do I really need to say more?

Why are you still reading. Go away. How have I not convinced you yet? Fine people. Maybe money isn't your thing. Well I have just the thing for you. Ever wanted to get your hands on a book really, really badly. Well how did that go? You probably went to the library. Not there. Went to another library? Nope. Ask your friends? Still, Nope. Then you are out of luck bucko. With an e-book it just ain't the same. It doesn't matter how rare the book is, if there is an electronic copy, you can get it. I can go on the internet and read straight from the Gutenberg Bible- one of the rarest books in the world, like I have my own copy (it's in Latin, so more like stare at intensely). Before the e-book, you would have just been out of luck. E-books let you read any book you want. It doesn't matter how rare it is. How can paper books even compete?

If you are the nostalgic type, then I get it. I remember those days in elementary school when we were all voracious readers, spending our money on those scholastic fairs. Well, it doesn't feel like that anymore does it. When was the last time you really sat down and got lost in a good book. Don't lie to me. Don't worry. We're all busy people. Life gets in the way. You just don't have the time to go to the library or book store and take out a book to just read for fun. Don't worry. E-books have got your back. You can take a book from the comfort of your own home and carry it with you wherever you go. With e-books, you can get back into the habit of reading in a jiffy and you don't have spend your time wistfully remembering the good old days.

How many people here wish we had lockers? That would be pretty cool. Well we're not getting them any time soon. How do we carry these textbooks that feel like bricks around with us. You just can't, without seriously risking some damage to your back. This is where e-books are actually good for your health. You can carry all your textbooks with you, wherever you go, and there are no health risks associated with it at all. It doesn't even have to be textbooks. When was the last time you were reading a book and really wished you were reading something else. With e-books, you can. Carry all the books you have ever wanted to read with you, all at once. You can always be reading just what you want to be reading.

If you still aren't convinced. I don't know what will convince you. E-books are better for the environment and your wallet. They let you read books that are rare and expensive that you wouldn't be able to get any other way. E-books will help you get back into the habit of reading and relive your middle school years and they're better for your health. Need I say more? So go out there and get an e-book.

#### SAMRIDHI SHARMA 3A CHEMICAL

Before I begin to tell you why physical copies of books are better than e-books, let me ask you something, have you ever been to a library and sat amidst the un-ending, tall shelves of books? Have you ever bought a new book and immediately taken a whiff of the fresh pages? Now imagine smelling a Kindle. What does it smell like? Nothing, I bet. Printed books come in so many different shapes and sizes. You have paperback, hardcover, thick like Harry Potter and the Deathly Hallows, and skinny like the Bernstein Bears. Now imagine these on a Kindle.

E-books are bland and boring. Every page looks like every other page, feels like every other page. There is no sensory perception. Printed books give you the opportunity to feel the book before you even read it. They make reading pleasurable on a physical level. When you are reading an e-book, it feels like any other activity you would do on your laptop or a tablet. There is no sense of a break from electronics. Isn't it exhausting to come home from work, having looked at a screen for 8 hours and then looking at a screen all over again? Wouldn't you rather curl up in bed and hold a physical copy of a Sophie Kinsella, or Stephen King novel and just while the evening away?

Speaking of Stephen King, studies have found that readers using a Kindle were less likely to recall events in a mystery novel than people who read the same novel in print. So, if you really want to remember important details and follow the plot closely, it is recommended that you read printed books rather than e-books.

Another reason to choose printed books over e-books is for the meet-cutes. Imagine this scenario: You are walking down the DWE hallway, a few printed books tucked close to your chest, engrossed in a conversation that is making you look anywhere but ahead and you collide into someone. The books fall, the person helps you collect them and you exchange numbers. Now if those books were a Kindle, the only number you would be getting is a fake one because no one wants to pay for that damage.

And after the meet-cute, you may want to share your books. Sharing an e-book, like we all know from sharing PDFs of textbooks, comes with the warmth of a hot chocolate gone cold. It has so much more meaning when you lend someone your printed copy of your favourite book. Isn't it so cute when you are reading a book that someone gave you and they have notes in

#### COUNTERPOINT

the margins? Sometimes, if you are lucky, you can also find doodles and meaningless phrases, or even lyrics of songs that they were probably thinking about. It's like being in the previous reader's mind while they were reading the book! If that doesn't excite, maybe you are meant to be an e-book reader.

With printed copies, you can take notes, highlight, write in the margins, use post-its, and dog-ear important pages. Every time someone reads a book, it becomes a different version of the original book. While ebooks may give you the option to virtually do the same, it is so easily reversible that the book is never really uniquely the reader's. And once a printed book is yours, it will be a loyal friend. You can reach for it whenever you please. Having a bad day? Reach for a book and dive into a whole new universe. Perhaps it's an e-book you want to utilize, but the electronic device is discharged. Guess you would have to put your bad day on hold until you find the charger and wait 2-3 hours until the device drinks some juice.

Another reason why printed books are amazing is because they are representations of all the stages of your life. There are so many of us who, once they buy a book, do no get rid of them because of the memories attached to them. I still have copies of Princess Diaries by Meg Cabot tucked away at home from my pre-teen years. It is so refreshing to sometimes skim through the books and reminisce about the school days.

Have you ever been on a subway and looked at the person reading across from you? Have you ever gotten curious about what they are reading but since they have a Kindle, you have no idea what they are reading? But when the person across from you is reading a printed book and you see the jacket, don't you get just a little bit excited to see that they are reading the book that you love so much? In a way, you feel a little connected to that stranger. This connection, my friends, e-books cannot forge.

Studies have also shown that reading ebooks before bed hinders your sleep. Staring at a bright light, such as an electronic, before bed can make you less sleepy and the process of falling asleep will take longer. It is better to read a printed book under the light of a bedside lamp and to turn it off before sleeping.

While all these amazing perks of reading printed books definitely make them a better option, there is one bonus the surpasses everything on the list. You can take a book into the bath without having to worry about water damage.



via Max Pixel under CC0 License

#### Editor's Note:

*Point Vs. Counterpoint* is a feature meant to stimulate discussion on thoughtprovoking topics. The views and opinions expressed here do not necessarily reflect those of the authors, *The Iron Warrior*, or the Engineering Society.



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# Kathleen Wynne Acknowledges She Won't Win

Urges Voters to Ensure NDP or PC Minority



HASAN AHMED EDITOR-IN-CHIEF

On June 2, 2018, just five days before the election, Kathleen Wynne presented a speech saying she knew she would not win, and she is okay with that. Here is a little summary of her speech.

Although she says she does not care about herself, Wynne cares about the future of the province. Her take is that she's worried about handing a "blank cheque" to the NDP or PC. Expanding on this point, she was concerned Doug Ford would have too much of a free hand if elected a majority, referencing the example where he would have opened up Greenbelt condo development until called out. She also attacked Ford's history of berating people based on religion, gender, or sexual orientation. On the other side of the political spectrum, Wynne worries about the NDP's effect on the Canadian economy. She is worried about the taxes that the party can impose on small businesses, causing unemployment rates to rise and lower job creation, while also promoting strikes like York

University's to continue. Due to a lack of faith in either party, a minority would ensure not much would get done during either new Premier's time of office. Thus, Wynne encourages to vote for the Liberal Party to cause a potential to form this minority government, as a way to "keep the next government in check."

I see this as a sort of last resort from Wynne. Her general dislike by the rest of the population seems to have hit her, and although she hasn't technically given up, it's clear that she's being realistic about her odds. According to CBC news, as of June 1, 2018, the Liberals are only projected to recieve 19.1% of votes, while the Conservatives and NDP are set to receive 37.2% and 37.1% respectively. The probability of winning goes to the Conservative party at 85.4% with a majority government and a 5% chance at a minority government. The NDP have a 6.3% chance of winning with a majority, and a 2.8% chance of a minority. The tracker has only predicted the NDP to pass the Liberal vote for polling averages as of the beginning of May, but the two vote counts for the PC and NDP government have only recently started to converge to the same value. However, don't count the chickens before they hatch; this is similar to the idea that "Trump would never get elected" and look what happened (not saying Doug is as bad as Trump, but I'm speaking more objectively as a "left vs. right" situation). And remember the Green Party could still win theoretically.

Horwath has responded and urged voters to not follow the advice, as it would only lead to a PC majority. This is probably due to the potential "left-wing split." Doug Ford did not have much of a response, and only said his team has kept its focus on getting their message out. As expected, they disagree.

Is this some weird sort of reverse psychology 5-D chess that Wynne is talking about to get some last minute Liberal votes? Or has she really thrown in the towel? Taking off my tin foil hat, it just makes it clear that this doesn't change much about who you vote for. It was kind of prevalent that Wynne wouldn't receive many votes anyway, and at this point it seems like she's stating the obvious. So stick to your research and vote who you want. Why has Wynne figured this out now? There was a long-standing trend of people disliking her, a large reason being selling off Hydro One.

This has the potential of being the worst election for the Liberals in Ontar-

**HASAN AHMED** 

EDITOR-IN-CHIEF

io history. If they win fewer than seven seats, this record is broken. Although her plan may cause a left split, it may have just brought more NDP voters. We'll have to wait until Thursday to find out.

Kathleen Wynne has been the Premier since 2013 and is the first female and open LGBTQ+ Premier of Ontario.

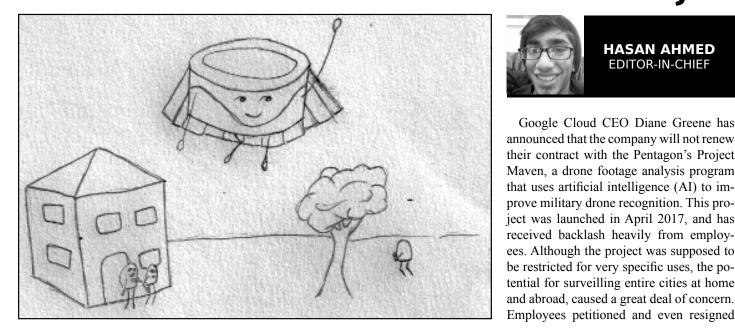


Jenna Muirhead via Wikimedia Commons

from Google due to the raised ethical

# Super Capacitor!

LEAH KRISTUFEK **CHEMICAL '16** 

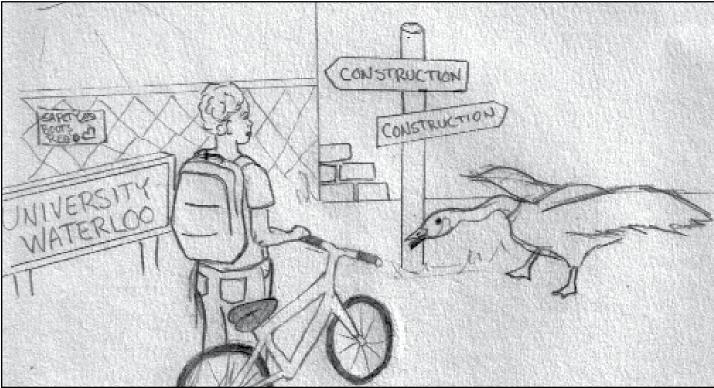


# Aren't You Glad It's a Summer Term?

LEAH KRISTUFEK **CHEMICAL '16** 

# **Google Will Not Renew Project Maven**

concerns of the project. About 3100 employees were reported to sign the petition presented to the company's CEO Sundar Pichai. Although Google insists that this is not as encompassing of a project as people Google Cloud CEO Diane Greene has seem to think, the potential of being able to click anywhere and see everything associated with that area in almost real time Maven, a drone footage analysis program draws a lot of ethical and privacy concerns. Greene says the collaboration will cease in March of 2019, which is when the contract ject was launched in April 2017, and has is set to expire. Google is also set to update its code of ethics within the next week. ees. Although the project was supposed to Perhaps this could extend a precedence of less (if any) military collaboration in the tential for surveilling entire cities at home future. If such Pentagon collaborations were to occur, it might only be for less "invasive" purposes, but we won't know for sure. The technology used in Project Maven is open source anyway, as Google was mainly providing technical support and expertise for the TensorFlow application programming interface (API). However, the controversy of direct involvement in an overtly military project from one of the largest companies in the world left many employees uncertain of the end uses. This brings about general conversations about machine learning (ML) and AI and the associated ethical and moral responsibilities for their use. As we approach a less and less private society, we have almost no choice but to trust these companies with our data. Although we tend to give it consensually (read your terms of agreement folks), any indication of our privacy being breached or our data being used without first notifying us is unethical at its core. Mistakes, hacks, and frauds can happen (re: Facebook and Cambridge Analytica situation), and ML and AI will only open up the door to make that worse. Then again, it could also make it better. The ones who have that technology and ability in their hands get to decide that for us. So maybe don't ditch your touch screen for a flip phone just yet, but be aware of the potential uses, good and bad, when that data falls into unknown hands.



# The Iron Crossword

These Are the Voyages...

**CAMERON SOLTYS** 

**MECHANICAL '18** 

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#### ACROSS

- 1: "What's up, ?"
- 4: Ottawa Torah Institute (abbr) **7:** "Mind the "
- **10:** Finger for your foot
- 13: A school administrator
- **15:** Peptide chain
- 17: Middle Eastern Market
- 18: Tarmac
- **19:** Following JKL
- **20:** Engineering program of hardware and

electricity (abbr)

- **21:** Excited activity of a dog's tail
- **22:** Hardwood frequently used in furniture
- **25:** Exploit for some purpose
- 27: before (archaic)
- 28: Pixar short film released with Cars 3
- **29:** Mouth boarder
- **30:** Preordained method of activity (abbr) **31:** Tasha , chief of security on NCC-
- 1701-D
- **32:** American airport security (abbr)
- **33:** Insecticide linked to bird egg thinning

- **35:** European Stability Mechanism (abbr) **37:** Tokushima Bunri University (abbr) **39:** Country north of Mexico (abbr)
- 42: "Watch me whip! Now watch me
- **43:** Supreme ruler above even a king
- 45: Parcel of land, especially undeveloped
- 46: Camera where the viewfinder and pho-
- tographic lens are the same (abbr) **47:** "Please get back to me at your
- The God, character in "A Req-48:
- uiem for Homo Sapiens"
- 49: Small hotel
- **51:** "What makes him bad" Adam Green song (2 wds)
- 52: Approximate duration to convergence (abbr)
- 53: Hive-mind Star Trek race
- 55: Kiss
- **57:** Place for recovering drug addicts to a Small Lump of Green Putty 60: I Found in My Armpit One Midsummer
- Morning 62: Watching with interest

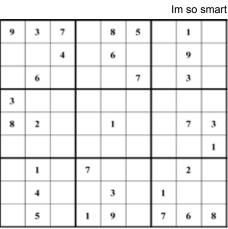


THE IRON WARRIOR WEDNESDAY, JUNE 6, 2018

Sudoku #2018-07

#### **HASAN AHMED**

EDITOR-IN-CHIEF





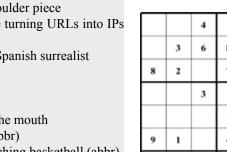
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Solutions for previous crosswords can be found on The Iron Warrior's website at iwarrior.uwaterloo.ca/distractions.

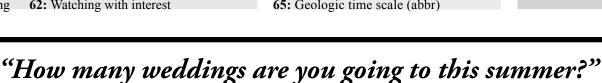
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piece	_				
ing URLs into IPs			4		
		-			-



- ment Statistics
- 57: Colour of slightly hot objects
- 59: Laboratory conducting sun science on Hawaii's big island
- 61: Method of taking down a server using
- internet traffic volume (abbr)
- **63:** " the b'y that builds the boat" 64: Frequently seen with "improved"
- 65: Geologic time scale (abbr)









1: equivalent to exe for Debian systems 2: Group for dental workers in Ontario (abbr) I said so!" (informal) **4:** Wrapping of a citrus fruit (2 wds)

**5:** Root vegetable of the Pacific Islands

**6:** " gonna be me" 7: Evaluation of student ability (abbr)

- 8: Donkey
- 9: Currently-ubiquitous practices and beliefs (2 wds)
- 10: Hot water infused by leaves

11: Floats on water

66: Greek Muse of love poetry

69: Travelled by automobile

71: Thinks and considers

68: Sad and unhappy

(abbr)

DOWN

3: "

**67:** Internet expression of humour (abbr)

70: Better than cable but worse than fibre

12: Tree-like species of Tolkien

14: Car of transformer Bumblebee

16: Argument, especially

**21:** University 1.5 hours

22: Prestigious sports ach

23: Alpine Ontario Alpin 24: Actor of Mr. Nobody

ous 7 (2 wds)

- 26: Ornamental shoulder 33: Internet service turning (abbr)
- 34: Salvador \_\_\_\_, Spanish surrealist **36:** Spread
- 38: Fifth element

40: Pop or coke

- 41: Consumed by the mouth
- 44: First opened (abbr)
- **50:** Station for watching basketball (abbr)

52: Country of pyramids and pharaohs

54: Double reed woodwind instrument 56: Office of Employment and Unemploy-

**58:** "To is human..."



"Zero, but currently taking applications." Fadel Nasereddin, 2B Management



"Not ranked" Hannah Cranham, 2B Management

"Person below, will you marry me?" Nicholas Fischer, 4A Mechanical



"Don't apply" Zoe Nahmiash, 2B Management



"Not selected for interview" Steph Musing, 2B Management



" OMG Yes! ... So I guess one wedding this summer" Austin Xiao, 4A Mechanical