Jeremy's 2024

Jeremy T Follow 16 min read · Jan 3, 2025

Happy New Year to everyone! I wanted to share at least one experience every month from 2024. I hope you enjoy reading!

If you have any questions or concerns about this article, you can message me on LinkedIn!

Table of Contents

- Building a PC with My Nephew

April

- Beating Pokémon Emerald

May

- HawkHacks

June

- My 22nd Birthday

July

- Visiting My Dad's Andrology Lab

August

- Gridfinity: Organizing Electronics with 3D Printing

September

- Hack The North: Canada's Largest Hackathon

October

- Reverse Career Fair: Showcasing a Face-Tracking Robot
- NASA Space Apps 2024: Winning 1st Place
- Toronto Public Library Digital Hub
- SecTor 2024 Conference

November

- Winning 1st Place at Internal Engineering Competition
- Volunteering at a Lego Robotics Tournament

December

- Montreal Trip
- Canadian Space Agency Tour

January 9–12 2024: CES 2024

At the start of the year, I had the incredible opportunity to be flown out to and present a project at CES 2024 in Las Vegas, the world's largest consumer tech conference. Collaborating with engineers from Atsign and the Qt Group, we developed a Smart IoT Plant demo that seamlessly integrated Atsign's peer-to-peer IoT platform with Qt Group's robust front-end capabilities. The partnership dates back to a year ago, where I've had the pleasure of being featured on Qt's career story blog series: Qt Journey — Revolutionizing networking security. The demo was showcased at the Qt Group's booth. The demo allowed people to securely monitor a plant's temperature and water levels and remotely water it, highlighting secure and intuitive control through our technologies. Leading this joint project was an enriching experience that gave me insight into working with engineers from partner companies to create something remarkable. It also enabled me to merge my expertise in mechanical design, 3D printing, and software engineering.

Presenting the demo to some gentlemen

CES 2024 was by far the biggest conference I have ever attended. It was an unforgettable experience that introduced me to groundbreaking consumer technology, some of which I've since adopted. Creality's K1 Speedy 3D Printer, which I've had the pleasure of seeing in person at their booth, is now part of my toolkit as one of my 3D printers. I was also fascinated by Luxonis's latest cameras, including the Luxonis Oak-D Lite, which I am currently using in my engineering capstone project, scheduled for completion in April 2025. Other cool things I've seen include Razer's sustainability mascot, Honda's cutting-edge electric vehicle, the Honda 0 Series, and the widespread adoption of MicroLED displays by various companies such as LG and Samsung. I also attended a keynote by the Walmart CEO, which featured a surprise appearance by Microsoft's CEO. Now I can say that I have seen the

CEO of Microsoft with my own eyes; a pleasure that I believe not many people can say.

Beyond the conference, my time in Las Vegas was filled with memorable experiences. I visited iconic landmarks such as Caesar's Palace and Hershey's Chocolate World. A standout moment was entering the awe-inspiring Las Vegas Sphere where I enjoyed a breathtaking short film that was displayed inside the dome. Watching that short film was like seeing the real thing.. quality on a screen does not get as much resolution as that.

Outside the Las Vegas Sphere

All of my friends know I love to collect swag at conferences. Bags, pens, t-shirts, pants, mugs, but my favourite of all are the stickers! Here's my haul from CES 2024:

Swag haul from CES 2024

January 20–21, 2024: Lego Robotics Provincials

Most of you may know that my passion first began as a programmer on my high school robotics team. Which is why I love to give back to the program that first gave birth to this passion: FIRST. Every year, there is a lego robotics tournament held at my university, and for the past 3 years since COVID was lifted, I've been a FLL Robotics Judge for the yearly provincial competition.

Unfortunately, there aren't many pictures from this weekend because most of the work of judges are confidential, but here is a picture of me from that Sunday at a team's booth.


FOULS
PLAYER
FOULS
Always Coca-Cola
CHAMPIONS
2011-12
CHAMPIONS
2011-12

I am Steve

January 26–28, 2024: Ontario Engineering Competition (OEC) 2024

Every year in Ontario, the Ontario Engineering Competition (OEC) is held at a post-secondary school where engineering students compete in different categories against other schools. Prior to this event, me and my team won the Internal Engineering Competition (IEC) in order to qualify as the representing team for my category: Consulting. My team of 4, including myself, competed at Queen's University located in Kingston, Ontario, about a 3 hour train ride from Ontario Tech. Unfortunately, my team did not reign victorious in this competition, part of the reason was that there were 3 software engineers (including myself) and 1 mechatronics engineer that composed the team, where we were tasked in solving a civil engineering related problem; a topic way out of our league. Nonetheless, it was an unforgettable experience as it fostered team bonding and team work. This 2025, I will be competing with the same team, but this time in our own turf, the Programming category.

Me Next to OEC 2024 Banner

February 08, 2024: Eating Pizza

I promised to mention an experience every month, and sometimes the month is just a grind, and nothing exciting really happens. This month was most likely midterms, school, and work. On February 8, 2024 however, I was eating pizza.

Me Eating Pizza

March 30, 2024: Building a PC

On March 30, 2024, I built a PC with my nephew. This marked the 4th computer I've ever built. Just so you know, I am not an expert at all, as I have to constantly ask my peers to update me on the market and trends of the parts. But, PC building is simple enough that even someone like me can get into it. I do think it is an experience that everyone should do at least once in their lifetime as it teaches you more than just what each PC component does. I tell people it's like lego as all you really need is YouTube and a screwdriver, but with bigger consequences since the components can be more expensive. But as long as your careful, you should be okay, although there have been *some* mistakes I have made in the past, but nothing too severe that I did not recover from.

Below is a photo of the cable management which I'm most proud of.

The Cable Management at the Back of My Nephew's PC

Sometimes it can be cheaper to build the PC rather than buy it prebuilt and you can even end up with a better computer overall if you build it from components. I built my first computer at the age of 12 with my parents' money, salvaging some of the parts that came from our original home computer. I was able to boost my home computer's speed by tenfold, while keeping the budget low and using some parts that were still good.

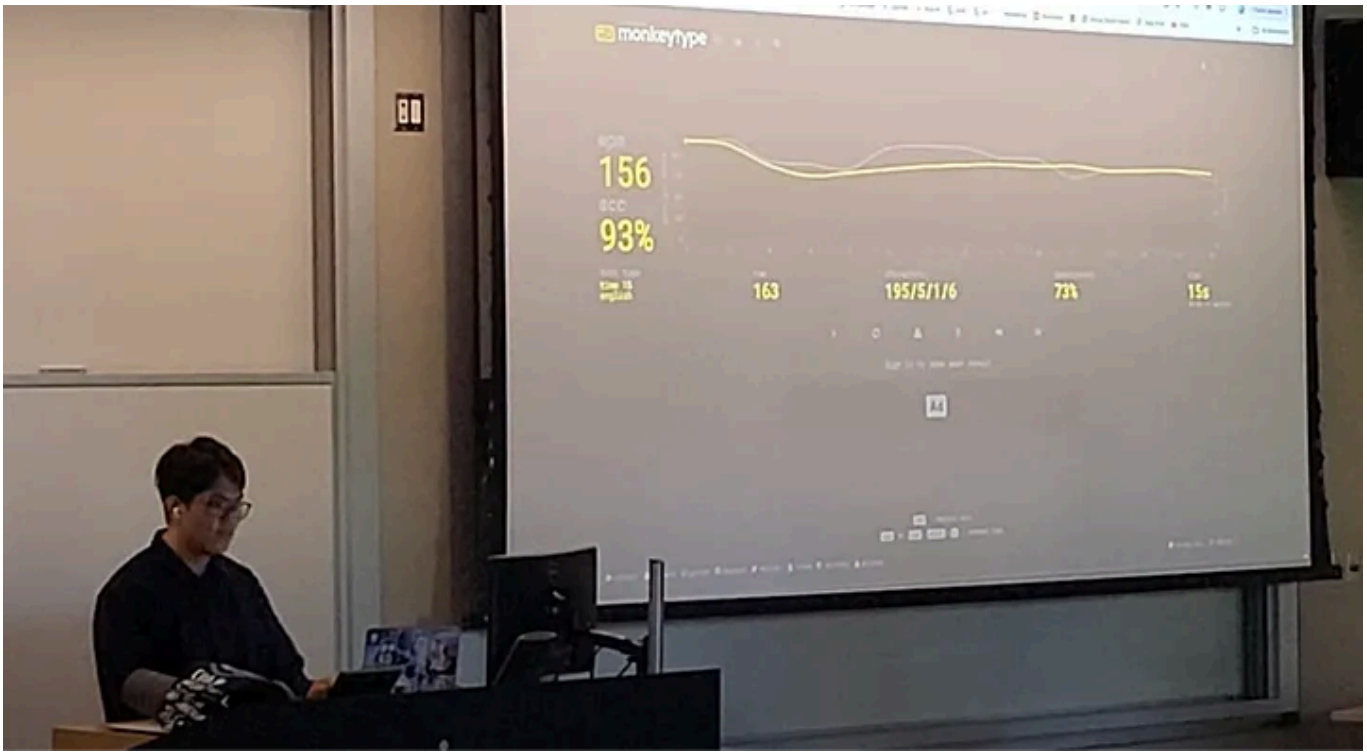
April 29, 2024: Beating Pokemon Emerald

Not many eventful things went on in April. It was most likely school, work, exams, and sleeping. On April 29, 2024 however, I did end up catching Kyogre and beating Pokemon Emerald.

Catching Kyogre in Pokemon Emerald

May 17–19, 2024: HawkHacks

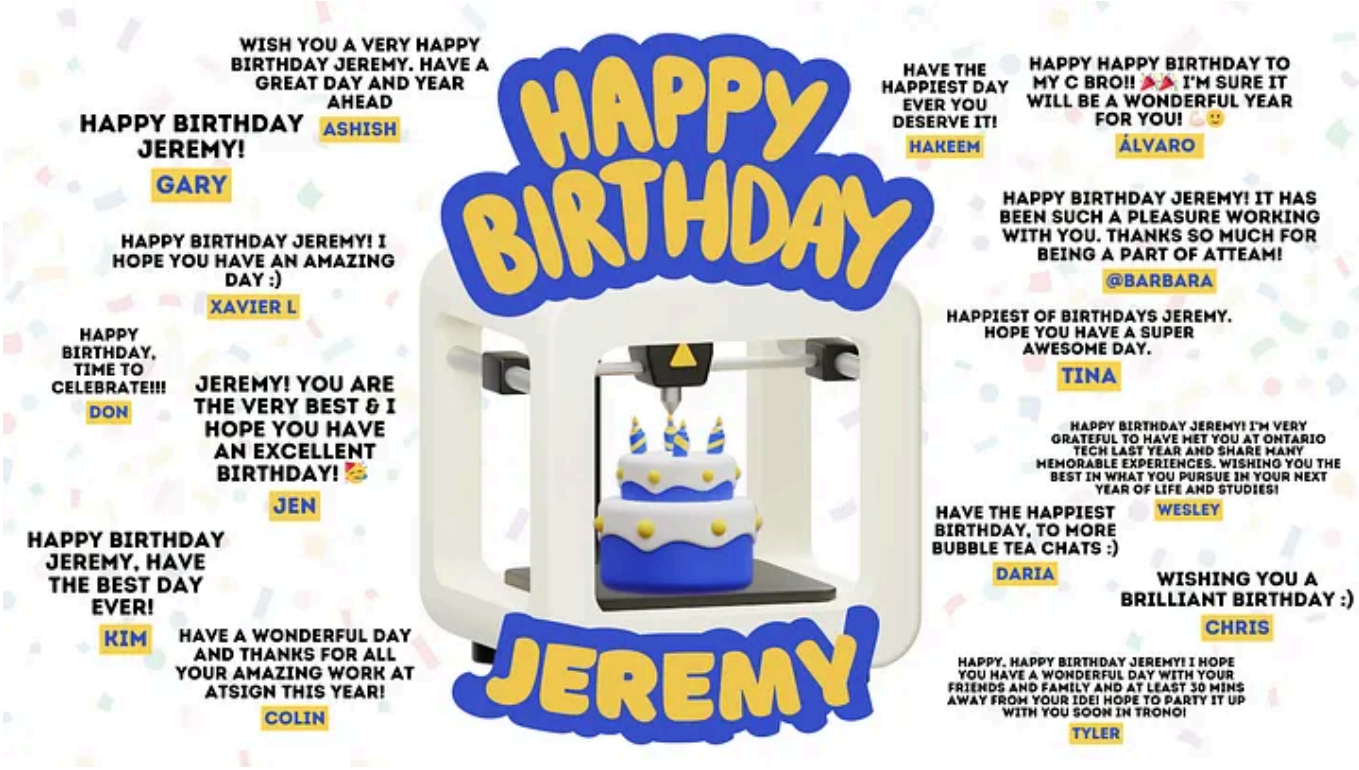
Me and my friends competed at Wilfrid Laurier's weekend long hackathon, "Hawk Hacks". We were quite proud of our project, which was WeekyWardrobe, a clothe borrowing conceptual application that allows people to borrow clothes and try them out without breaking the bank. While it did not win, I managed to take one victory for me and my team back home which was through the type racing competition. Typically in hackathons, the organizers like to keep the competitors entertained with events throughout the hackathon like workshops and competitions. Type racing was one of them, and I ended up winning 1st place with 156 WPM. My prize was an Amazon gift card and a Roku stick, which was a great prize for something that was secondary to the actual event.



Winning 1st Place at Hawk Hacks Typing Competition

June 23, 2024: My Birthday

Career wise, nothing happened this month, but I suppose I did spend my birthday with friends and family. On this day, I met up with some friends and hung out, ate some hotpot with family, and received this awesome birthday card from everyone at Atsign. At Atsign, we like to make birthday cards and sign them for one another with a theme that brings the recipient a smile. In this case, I love 3D printing, so my card was 3D printing themed. Thanks to everyone that signed my birthday card, it always makes me smile.



My 22nd Birthday Card from Atsign

July 05, 2024: Visiting My Dad's Lab

July was another less eventful month. Bravo to you if you're still reading this far. It gets kind of hard to find a career-related experience every month, but sometimes this is as close as I can get. On July 5th, 2024, I visited my dad's andrology lab, where he studies the reproductive system of patients. He gave me a tour of the equipment and saw other cool stuff at the microscopic level.

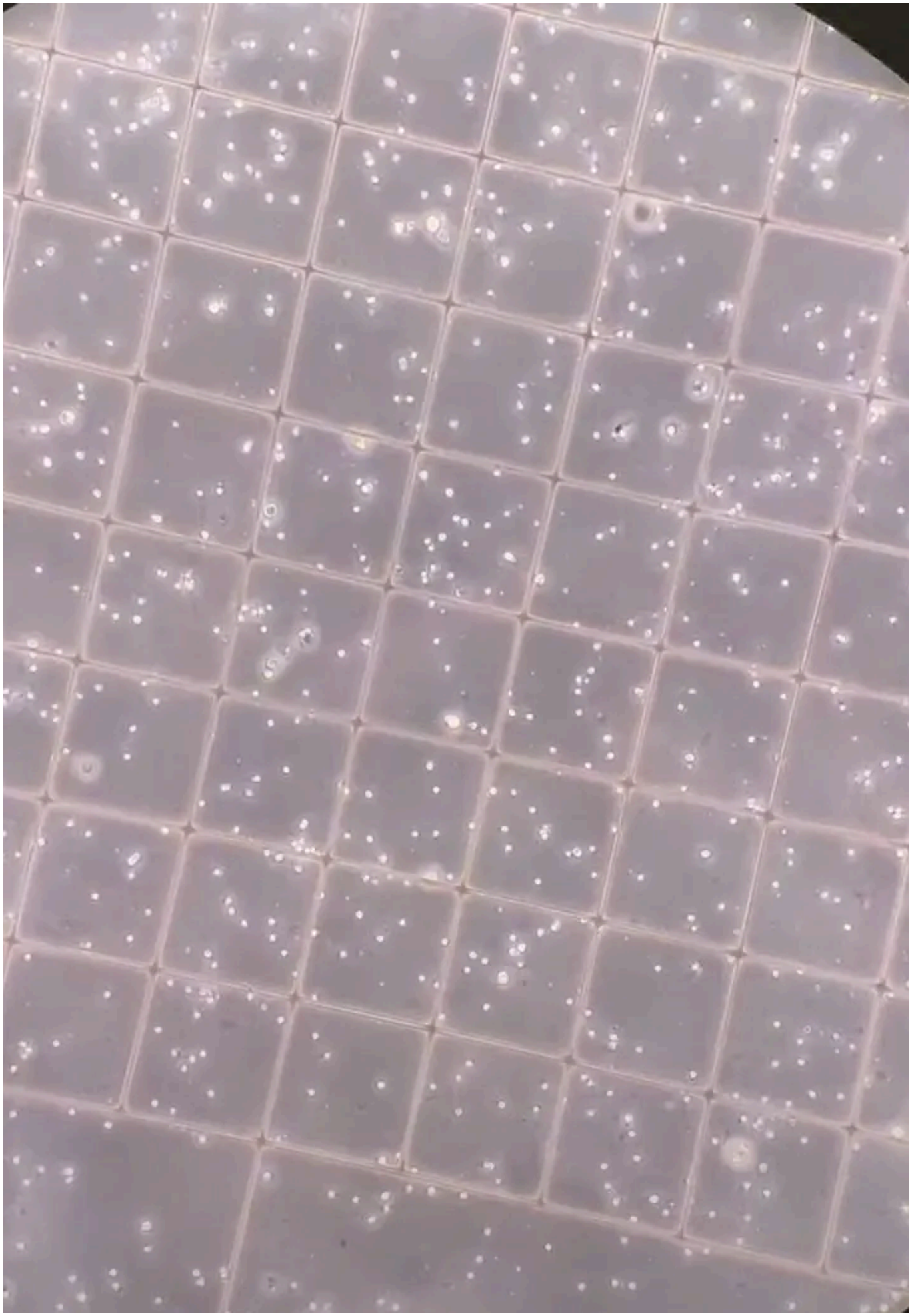


Photo of stuff

August 03, 2024: Gridfinity

On August 3, 2024, I finished one of my side projects, which was using gridfinity to organize all of my mini electronics. Gridfinity is a popular 3D printing standard for creating these organizational bins. This project probably took a month to finish, since I only have one 3D printer and bins can sometimes take up to 6 hours to print.

Whenever I am working on a project and need just a couple of components, I am able to pick out the bins individually and keep myself organized while I work. The reason I picked up this project in the first place is because I found myself to work best in an organized and clean environment. So investing the time to organize myself will yield return in the future.

Below is a photo of my gridfinity bins each with a label of what electronic they are holding.

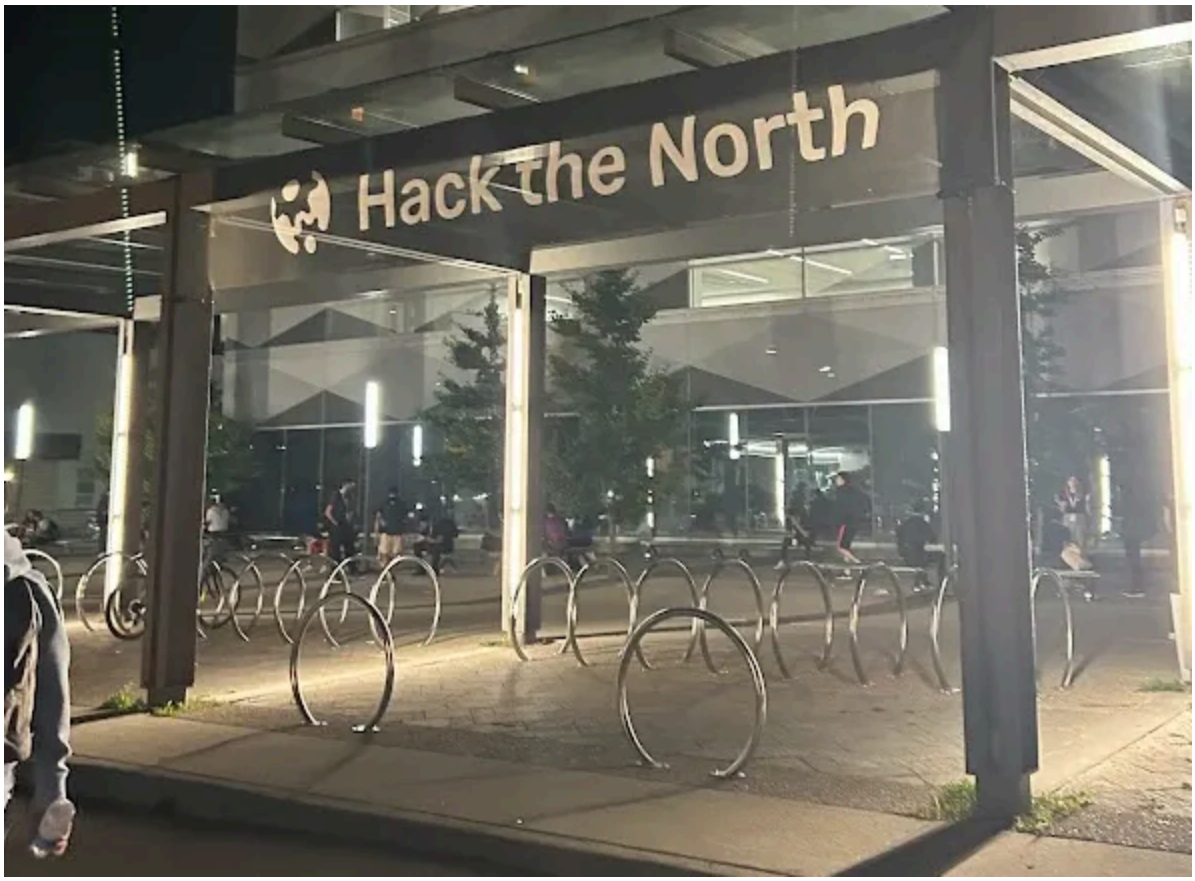
Gridfinity

September, 13–15 2024: Hack The North

I was fortunate enough to be accepted into Canada's largest hackathon ever, Hack The North, hosted at the University of Waterloo. This is by far the most competitive and action-packed hackathon I've ever attended. There were so

many interesting workshops and events that I simply could not keep up and attend all of them, as much as I would have loved to. Some highlightable workshops I've attended were Intro to NVIDIA Cuda, Intro to Figma, Shopify's AI unleashed, PCB building, and CSE's career workshop. The food was outstanding, as every meal was professionally catered, and there were usually opportunities for seconds.

Not to mention, the entire weekend was completely free to attend. Everyone attending also got travel reimbursements, whether it's by plane, by bus, or by car. Since I just lived in Toronto, the hackathon team organized a school bus shuttle to bring us to/from Waterloo, which was a comfortable experience, as I did not have to worry about any navigation. As this was my last year of my university undergraduate degree, I decided to simply enjoy the weekend, attend as many workshops as I could and of course collect as much swag as possible.



Hack The North Entrance Banner

A great piece of advice from my peers who attended in previous years is to attend the earliest bus to arrive there as earliest as possible, to make the most out of the sponsorship booths. The sponsorship booths open the night before the hackathon begins, and most sponsors stick around during the competition to hire students. It is important to visit every booth as soon as possible before swag runs out.

Sponsorship Bay

I loved visiting the 3D printing lab at the University of Waterloo. Their engineering department does not disappoint. They've got a room full of Prusa printers and a couple of Bambu Lab X1 carbons. During the competition, they offered free 3D printing if you needed it for your project. I asked them for a benchy and the person added support so I got this (see image below).

3D Printing Lab from University of Waterloo's Engineering Building

Benchy from HackTheNorth

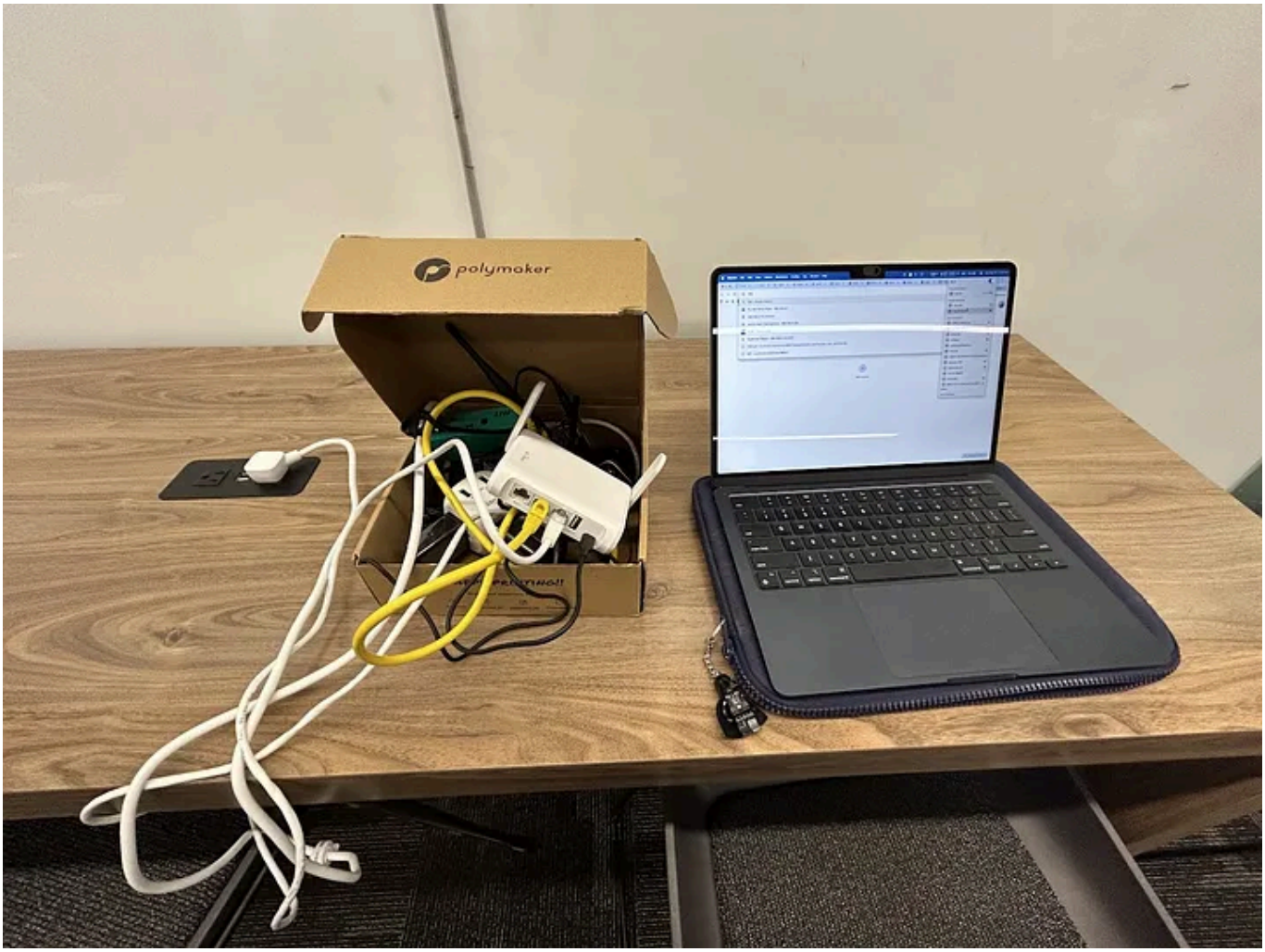
This is what the swag haul from Hack The North looked like. I got around 5 t-shirts, 2 sweatpants, beanies, bucket hats, a sweater, hundreds of stickers, chargers, pens, candy, socks, and more.

Hack The North 2024 Swag Haul

Some of my favourites was this custom lego Hack The North themed goose.

Lego Hack The North 2024 Swag

As for my Hack The North demo, it would be nothing too impressive to the judges. Most projects need some sort of AI or a pretty front-end experience for you to make it to the finals, but my project was nothing more than a command-line security demo. If you're curious about my project, you can read more about it here: https://devpost.com/software/connect-y6khjl. The image below is what the demo looks like remote access in an air gapped environment. Due to the limited time we had with the judges, one of our missions was to quickly plug in all the electronics into the wall once we entered the judging room. Putting it into a box was an easy way to transport all of it, and using an ANKER power bar to do it all in one easy plug was a great solution.



What The Demo "Looks" Like

Nonetheless, I was not attending to win to begin with. I am very satisfied with the experience and memories made at the event.

The final and most popular food offered at the end of the hackathon was bubble tea! It was the most popular food offered at Hack The North and one of my favourites.

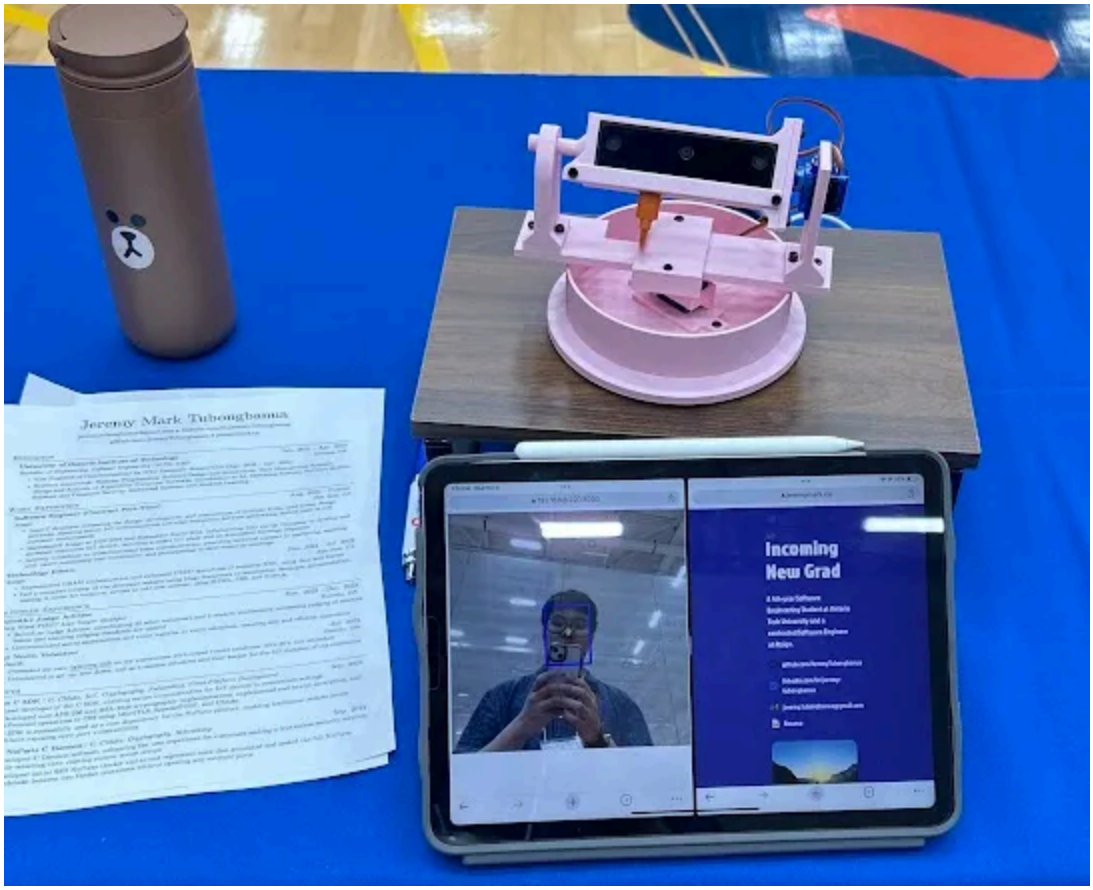
Me with Bubble Tea

October 02, 2024: Reverse Career Fair

Every year, Ontario Tech hosts something that is called the "Reverse Career Fair" which is like a career fair but instead of the employers hosting the booth, the students host the booth. Since this is my last year of university,

they have a dedicated time slot for new grads, and I felt I wanted to take advantage while I still had the opportunity.

For the career fair, I wanted to stand out, so I developed a face tracking robot that employers could interact with at my booth. The robot uses 2 microservo motors and some 3D printed parts that I've designed myself, as well as a Luxonis Oak-D Lite camera that I purchased from Amazon that runs a face tracking classifier locally. I really wanted to show off my intersection with mechanical design, 3D printing, and machine learning/ai expertise during the career fair. The demo was fully functional, and all it needed was 2 power banks: 1 power bank to power a raspberry pi and another to power the router so that my iPad could connect to the web server that would output the video stream with bounding boxes drawn around faces.



What My Booth Looked Like

Me Wth Booth

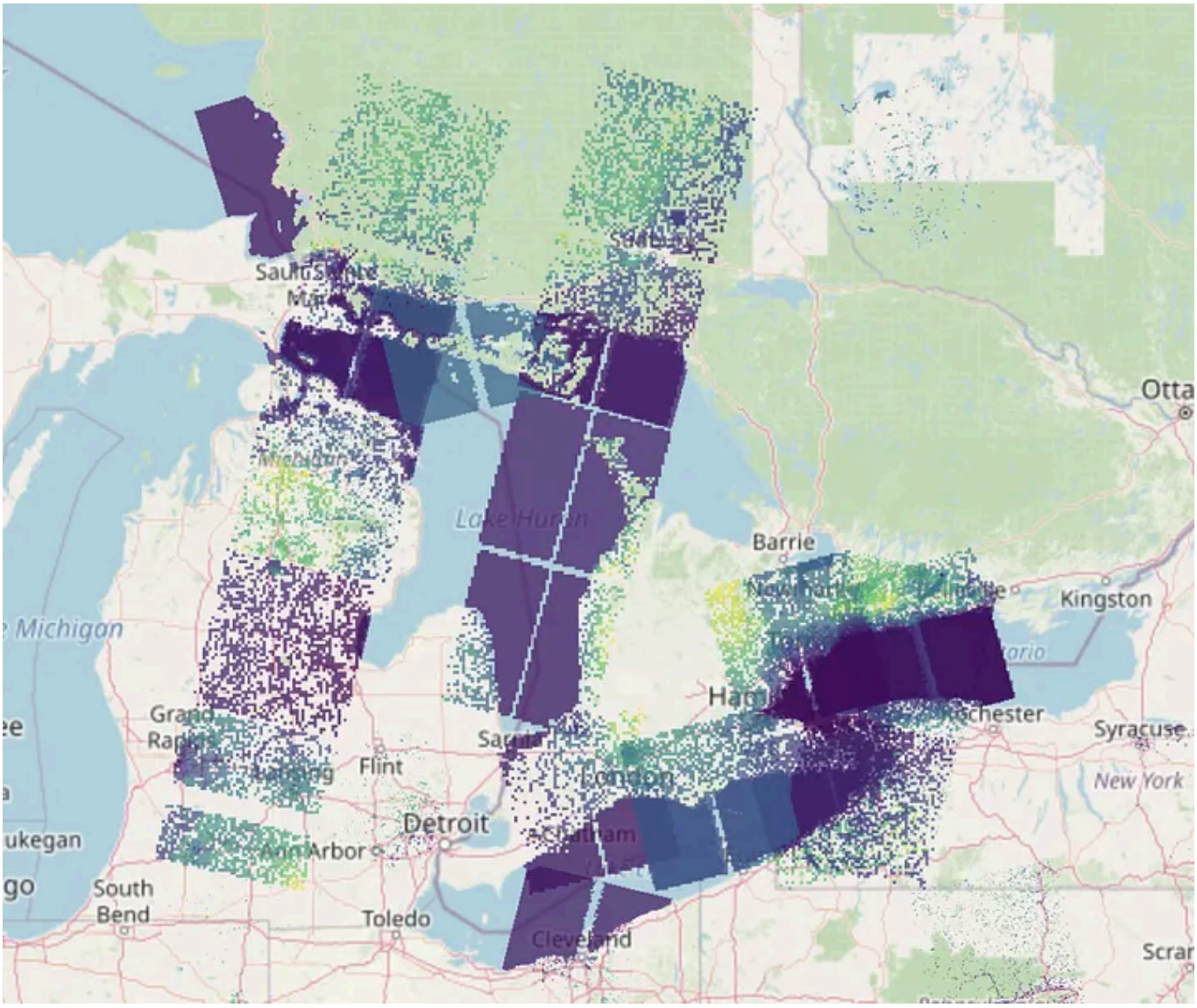
October 05–06, 2024: NASA Space Apps 2024

Ontario Tech hosted a NASA hackathon known as “NASA Space Apps”. NASA Space Apps is a global-wide initiative where organizations host their own hackathon under that name and complete challenges that are posted by NASA Space Apps themselves. There are multiple hackathon themes that you can compete in, ranging from water themed challenges, environmental challenges, challenges related to planets, satellites, and space, and more. There is one thing in common among all challenges which is that you had to use open-source data from NASA in your project. The theme I chose was “Community Mapping” and intended to somehow find an intersection with 3D printing, software engineering, and open-source satellite data from NASA.

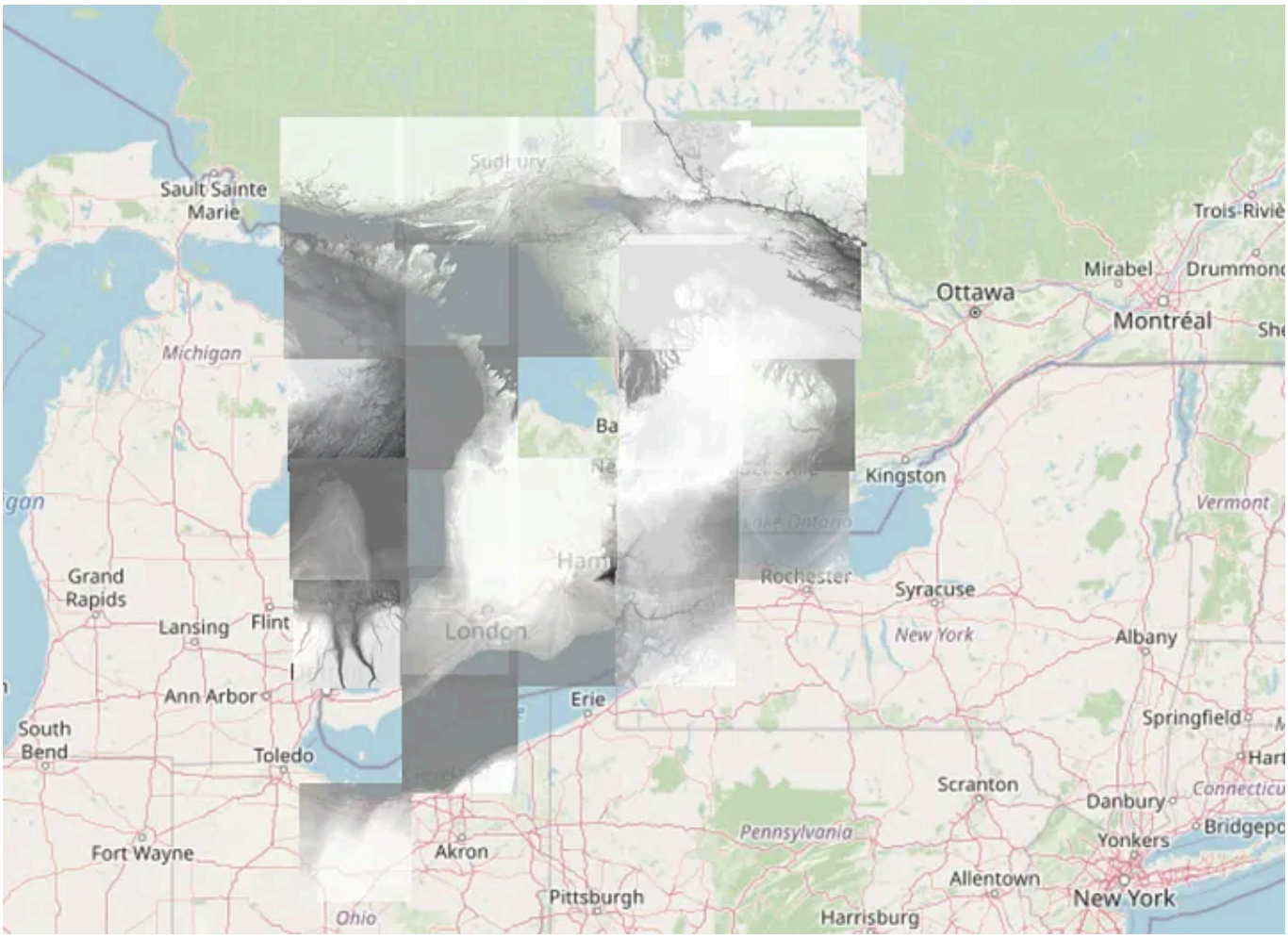
My team won 1st place and was chosen as the global nominee.

Our project is “Mapping X”. Mapping X is a web-based interactive Geographical Information System (GIS) tool that lets you generate .STL. meshes from Digital Elevation Model (DEM) data and Surface Water and Ocean Topography (SWOT) data from open-source NASA Earthview data. The generated STL meshes can be used for 3D printing for observation which can be used for terrain and water elevation analysis.

You can read more about MappingX here and see the code for yourself: https://github.com/JeremyTubongbanua/nasa_space_apps_2024 . Below are some photos using the NASA open source data.



Surface Water and Ocean Topography Data overlaid onto a map of Southern Ontario



Digital Elevation Model data overlaid onto a map of Southern Ontario

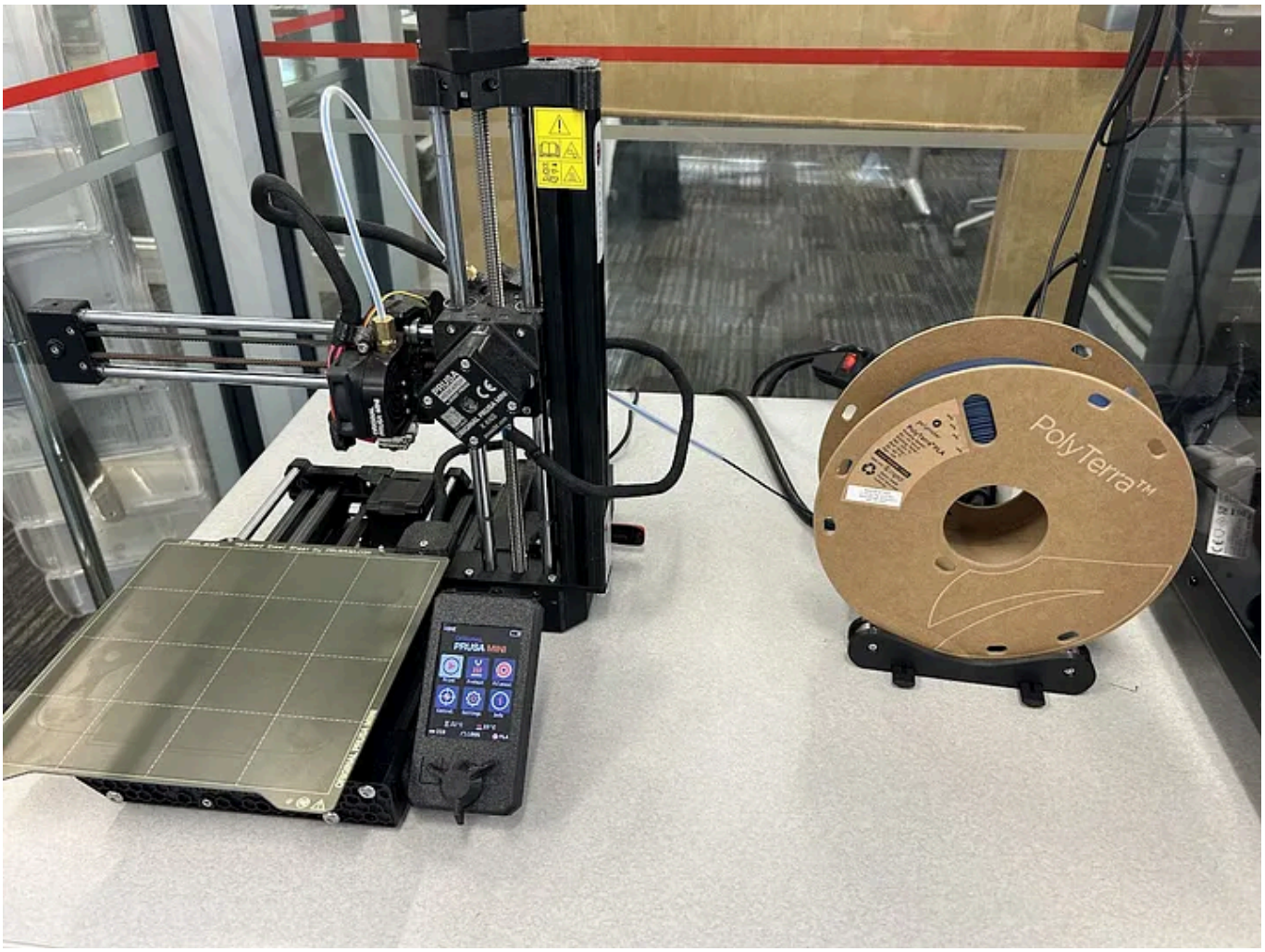
October 15, 2024: Toronto Public Library Digital Hub

The services offered at the Toronto Public Libraries are great. Ever since high school, they've begun to dedicate a space in their libraries called the "digital innovation hub" where people in the community, especially youth, have the opportunity to learn with tech that would typically be hard to access such as 3D printers, Mac PCs for digital design, and would be an overall space for workshops and creation.

The lady working there that day saw eye to eye with me, and we shared our joy in the hobby of 3d printing. She showed me around the lab, as I haven't found the time to visit in a while. The library I visited had 3 Prusa MK3s and a cabinet just for holding filament.

What the Digital Innovation Hub looks like

TPL's Filament Stash



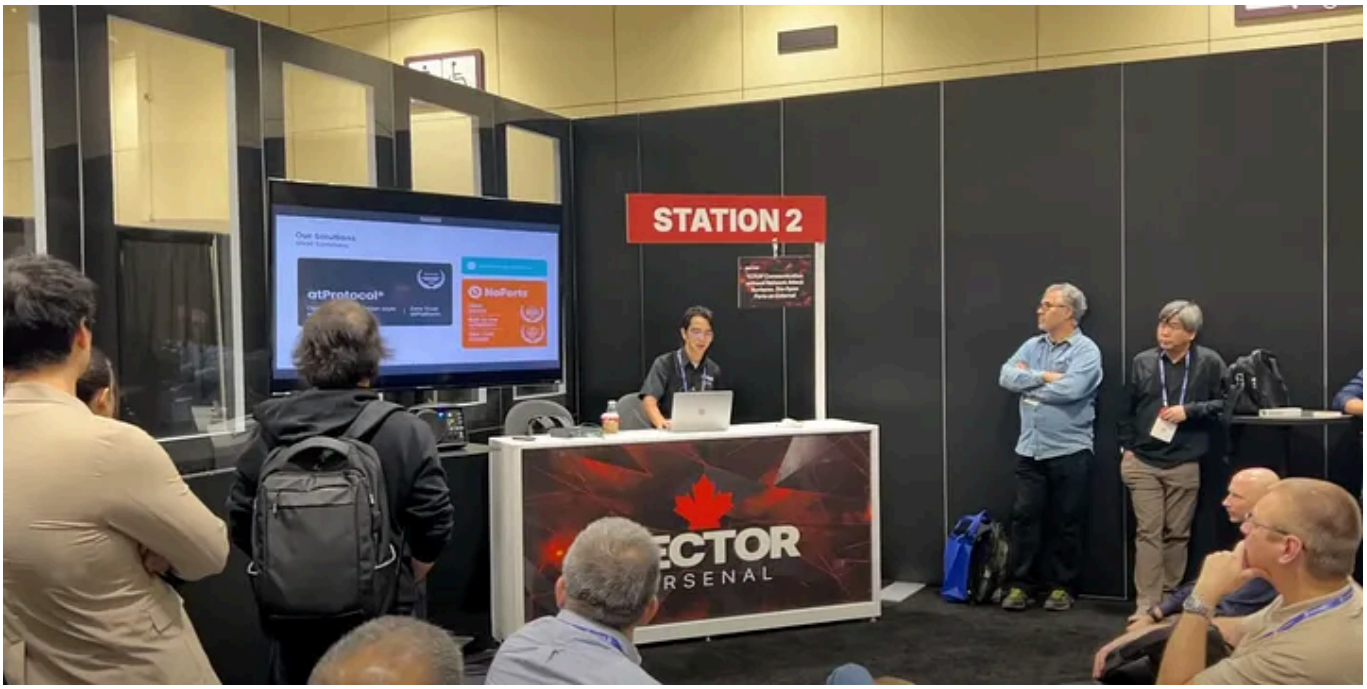
Prusa Mini with a Polymaker PolyTerra spool

October 23, 2024: SecTor 2024

SecTor is **the** cybersecurity conference held in Toronto, short for “Security Education Conference Toronto.” This year, it was their 18th time holding the conference. Attending it caught me off guard, as Toronto typically does not get large tech conferences like this one. It sort of gave me CES vibes, but nothing to that scale.

Me next to Crowdstrike mascot

Xavier C's presentation attracted the largest crowd among all the other stations, and I was happy to have witnessed it myself; that the potential for Atsign's tech is tremendous in the security space. Atsign felt right at home attending this conference, as the attendees were right up our alley and resonated with pain points that Atsign is solving.

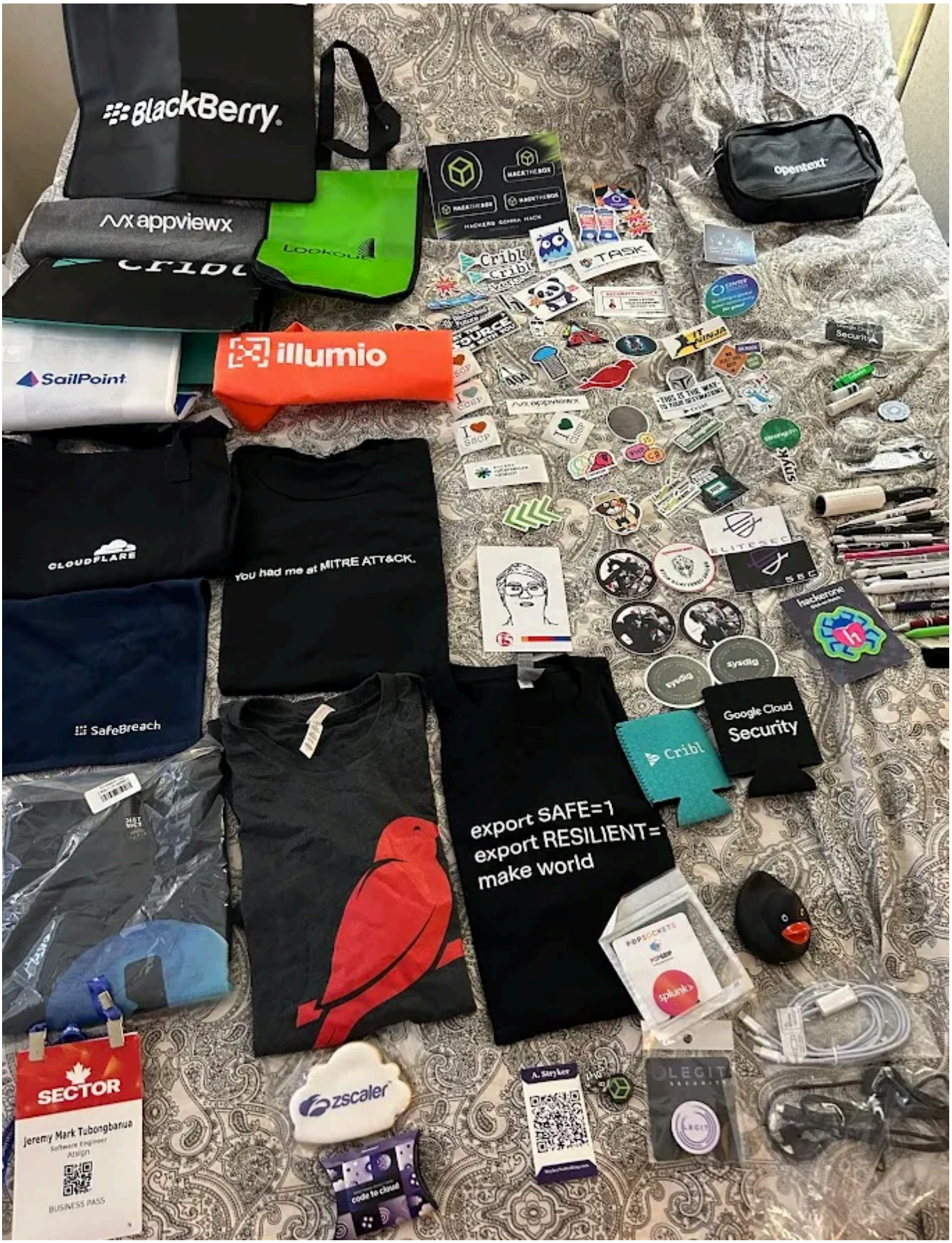


Xavier C attracting the largest crowd at the conference with his presentation

Here's a photo of the Canadian Atsign team assembling at the conference that day.

The Canadian team at Atsign

This was the haul from SecTor 2024. I was very impressed by how much was given away at the booths, given that it was a conference in Toronto. We don't typically see much noise in the tech space up here. The haul was a lot of bags, a lot of t-shirts (probably about 5–7), lots of stickers, pens, a lint roller, an OpenText lunch bag, and a patch.



SecTor 2024 Swag Haul

November 02, 2024: 1st Place @ Internal Engineering Competition

Every year, Ontario Tech's Engineering Society hosts the Internal Engineering competition in which winners from this competition will represent the school at the provincial level, at the Ontario Engineering Competition.

My team won 1st place in the programming division at Ontario Tech's Internal Engineering Competition. Check out our LinkedIn post here.

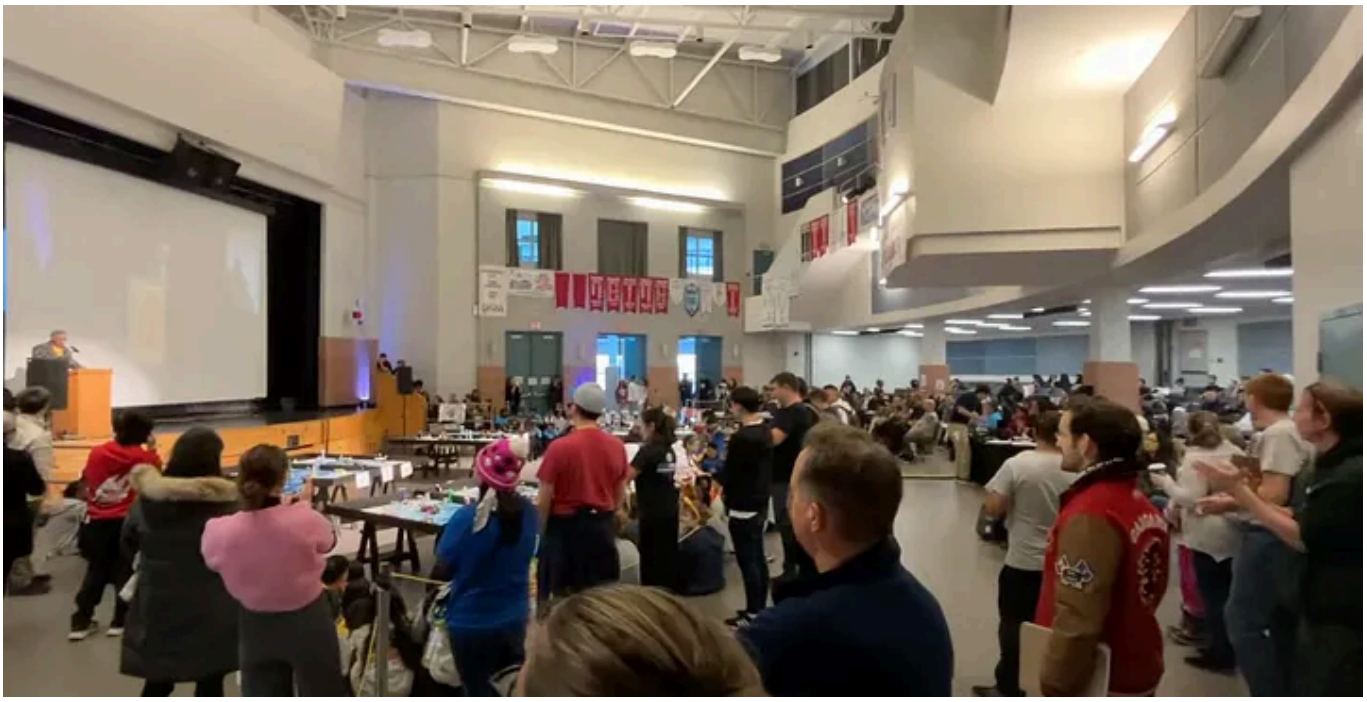
My Team

November, 30 2024: Lego Robotics Tournament

Every year, my old high school would host a robotics tournament for elementary students. This tournament is similar to the provincials level event, which happened in January.

This year, I volunteered as a robotics judge, where I would grade elementary lego robotics teams on various metrics like their innovation project, core

values, and robot design. Every year, I am happy to be part of the team that fosters passion and pushes for education in STEAM.



Lego Robotics Tournament

December 15–17, 2024: Montreal Trip

To end the year off, I went on vacation to Montreal with my family and had the opportunity of visiting the Canadian Space Agency. I visited your typical attractions in Montreal like the Oratory, Notre Dame, and McGill.

McGill Campus Store

December 17, 2024: Canadian Space Agency

While in Montreal, me and my family also received a tour at the Canadian Space Agency. The Canadian Space Agency is the federally government funded space institution of Canada, something like NASA but in Canada. Below is a photo of me in front of the Canadarm in their main lobby.

Me with Canadarm at the Canadian Space Agency

I saw many amazing things there, from real astronaut patches, satellite models, rocket models, and rover models. I loved learning about how astronauts trained at the CSA as well as some of the intricacies of how they engineer some of their rovers. I hear that astronauts are frequently at the CSA, so it is likely to pass by one in the hallways as an employee there. I am unsure of how much I am allowed to say about this experience, so I will keep it to a minimum.

2025

2024 was such an exciting year and I am excited to see what 2025 has in store. In 2025, I will be competing at the Ontario Engineering Competition, this time in the programming category. I will also be finishing my engineering

capstone by April and graduating with a Bachelor or Software Engineering. Thank you for reading this far and I hope you also have a great 2025.

Unlisted

Written by Jeremy T

0 followers · 1 following

Follow

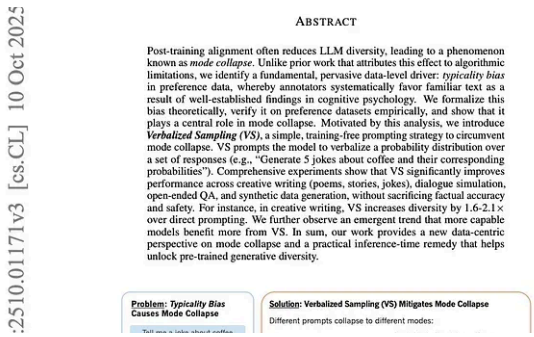
Responses (1)

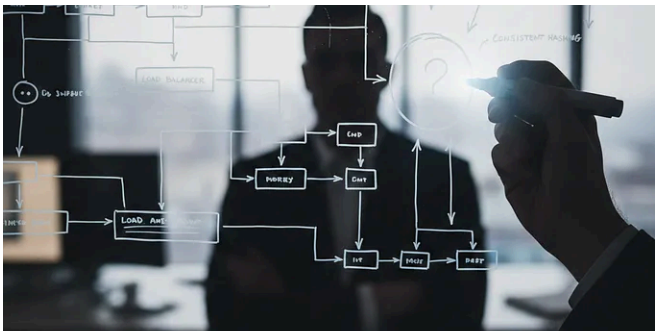
Write a response

What are your thoughts?

See all responses

Recommended from Medium





In Generative AI by Adham Khaled

Stanford Just Killed Prompt Engineering With 8 Words (And I...

ChatGPT keeps giving you the same boring response? This new technique unlocks 2×...

Oct 19 21K 538

In Beyond Localhost by The Speedcraft Lab

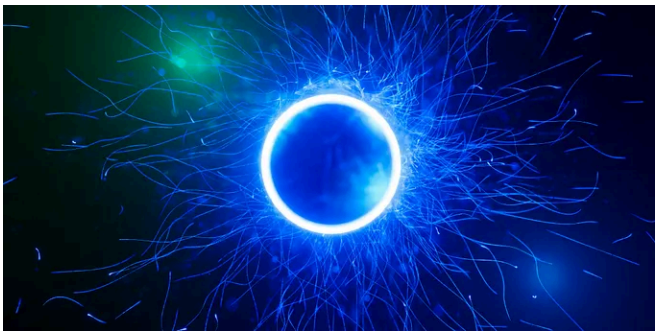
I Thought I Knew System Design Until I Met a Google L7 Interviewer

A single whiteboard question revealed the gap between knowing patterns and actually...

Dec 21 2.2K 47

In How To Profit AI® by Mohamed Bakry

Your ChatGPT History Just Went Public on Google. Here's What I Di...



Will Lockett

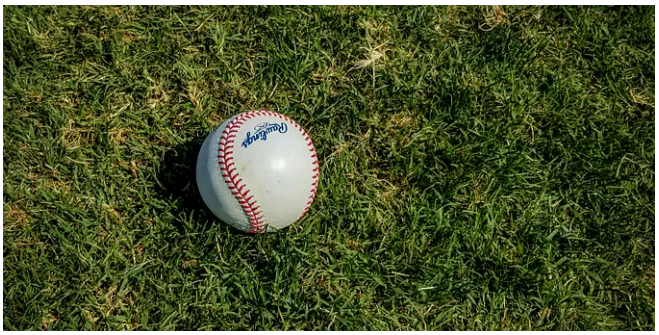
The AI Bubble Is About To Burst, But The Next Bubble Is Already...

Safety/Privacy Check Prompt Template Is Included

3d ago 14.2K 452

Techbros are preparing their latest bandwagon.

Sep 14 20K 791

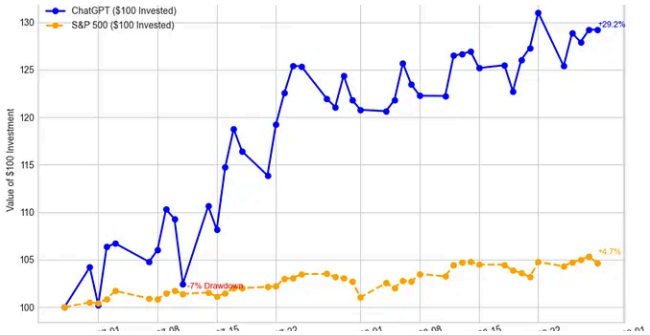


In Edge of the Game by Jackson Dylan

Is Brandon Nimmo the Most Underrated Player in the League?

When it comes to sports, many players shine brighter than others due to playing in higher...

Jul 24 568



In Coding Nexus by Civil Learning

I Handed ChatGPT $100 to Trade Stocks—Here's What Happened i...

What happens when you let a chatbot play Wall Street? It's up 29% while the S&P 500...

Sep 2 8.3K 229

See more recommendations