

Jerry Zhu

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Education

- Sep '19 **Pierre Elliott Trudeau High School**, OSSD Diploma.
- Present
 - **90%+** average throughout high school and **98%+** average in all math courses with fast tracking
 - Executive of Computer Science Club
 - Implemented innovative course material that increased member attendance by **320%**
 - Executive of Mathematica Club
 - Organized teams and represented school at math contests, and increased attendance by **50%**

Experience

- Oct '20 **CANTOP**, Computer Science Teacher.
- Present
 - Taught the **ICS20** computer science course to students
 - Designed tutoring material and taught students computer science concepts and algorithms
 - Communicated with employers and parents using **weekly** progress reports
 - Helped raise student grades by **20%** and increased student learning skills and achievement

Jan '19 **K12BB Education**, Robotics And Math Teacher.

 - Present
 - Taught **LEGO EV3** robotics, **WEDO** robotics, and **primary school math** to students
 - Designed engaging material and slides for **30+** students
 - Helped raise student's marks by **10%** and improved independent work skills by **150%**
 - Led and mentored students to be high achieving **leaders** in their robotics teams

Volunteer

- Apr '18 **Miracle STEM Network**, Founder and Co-Chair.
- Present
 - Founded non-profit organization that provides **free** robotics courses to kids 6 to 11 years old
 - Taught LEGO EV3 robotics to and engineered engaging class content for **400+** members
 - Pitched to sponsors to find sponsorships to fund our events, and received funding of **\$50,000 USD**
 - Organized events to increase member growth by **200%**
 - Developed and maintains organization website with **100+** annual viewers

Sep '18 **Outstanding Teenager Leadership Foundation**, Event Organizer and Volunteer.

 - Present
 - Collaborated with team to organize events, find sponsors, and campaign for donations door-to-door
 - Planned and volunteered at large-scale fundraisers with over **100+** members
 - Raised over **\$78000 CAD** for SickKids research

Sep '15 **Junior Markham Youth Council**, Mentor.

 - Present
 - Organized events for the youth in Markham with **1000+** participants
 - Lead and mentored team of **30+** members to plan successful large scale events
 - Implemented innovative ideas that increased turnout by **40%**

Sep '19 **Bob Saroya, MP for Markham-Unionville**, Campaign Member.

 - Present
 - Worked with Bob Saroya's team to plan and volunteer at campaign events, and advertised to the community to increase attendance by **10%**
 - Put up **50+** yard signs, campaigned to **300+** families, and increased likely voters by **5%**
 - Achieved **Certificate Of Appreciation** and **Community Involvement Award**

Projects

- Sep '19 **HANQ (Voice Assistant)**, Python.
- Sep '19
 - Implemented a **smart voice assistant**, capable of interacting with user conversations
 - Used **Python**, **Azure**, and **XE API** to build a efficient assistant bot and a sleek user interface
 - Leveraged **NLP**, and **Azure Cognitive Services AI** to implement speech pattern recognition
 - Implemented **web scraping** and **local caching** to increase response time by **350%**
- Aug '19 **The Weathered Traveller (Web App)**, HTML.
- Sep '19
 - Implemented a web application, that provides travel recommendations based on weather preferences
 - Used **Flask**, **Heroku**, and **HTML/CSS/JS** to create a user-friendly website and backend
 - Leveraged **GCP Firebase**, **Sheets API**, **SQL** and **OpenWeatherMap** to speed up efficiency by **200%**
- Feb '20 **Cat and Dog Classifier (AI Web Application)**, Tensorflow.
- Present
 - Implemented a cat and dog classifier algorithm and web application demo
 - Used **Flask**, **Bootstrap**, **h5py**, and **Heroku** to implement efficient and user-friendly interface
 - Leveraged **Tensorflow**, **Keras** and **numpy** to design a **deep learning CNN** algorithm that achieves over **98%** accuracy on Kaggle datasets
- Sep '18 **Smart Sprinkler System (Hardware Project and Model)**, Arduino.
- June '19
 - Implemented an efficient hardware prototype, design and pitch for a Smart Sprinkler System
 - Used **Arduino**, **MIT App Inventor**, and **Android Studio** to create a hardware model that increases performance by **200%**
 - Designed strategic model that would enhance efficiency by **50%** and increase market share percentage potential by **5%**, while also decreasing cost by over **75%**
 - Achieved Global Innovation Award at the Ontario Innovation Celebration out of **50+** teams

Achievements

- Sep '19 **Finalist**, Hack The North.
 - Selected as 1 of 13 teams out of 1500+ hackers to win the Finalist award at Hack The North 2019
- Oct '19 **5th Place Winner**, picoCTF.
 - Placed top 5th out of 1000+ teams in Canada and 99th out of 57000+ teams internationally
- May '20 **Winner**, UTS Antiviral.
 - Placed 1st out of 60+ strong math participants at the UTS hosted prestigious annual math competition
- Feb '20 **Honour Roll**, University Of Waterloo Contests.
 - Achieved honour roll on Gauss, CIMC, Fryer, and CCC
- Present **Top Contestants**, Competitive Programming Online Judges.
 - Top 0.1% of contestants on Don Mills Online Judge worldwide
 - Top 0.5% of contestants on Codingame platform worldwide
 - USA Computing Olympiad Gold Division

Skills

Languages: C++, C, Java, Python, HTML/CSS/JS, TS, SQL, Perl

Technologies: \LaTeX , Flask, Django, Node, Angular, Express, MongoDB, Bootstrap, Docker, Git/Github, Heroku, Wordpress, Azure, GCP, Tensorflow, Keras, Ubuntu, Kali Linux, Arduino

Academic Interests: Theoretical Computer Science, Cybersecurity, Artificial Intelligence, Software Engineering and Design, Computer Systems and Hardware, Mathematics, Optimization, Music Performance and Theory