Jerry Zhu

Education

Sep '19 – Present

Pierre Elliott Trudeau High School, OSSD Diploma.
- **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 – Present

CANTOP, Computer Science Teacher.
- Taught the **ICS2O** 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 – Present

K12BB Education, Robotics And Math Teacher.
- 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 – Present

Miracle STEM Network, Founder and Co-Chair.
- 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 – Present

Outstanding Teenager Leadership Foundation, Event Organizer and Volunteer.
- 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 – Present

Junior Markham Youth Council, Mentor.
- 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 – Present

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

HANQ (Voice Assistant), Python.
- 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
– Sep '19**

The Weathered Traveller (Web App), HTML.
- 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
– Present**

Cat and Dog Classifier (AI Web Application), Tensorflow.
- 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
– June '19**

Smart Sprinkler System (Hardware Project and Model), Arduino.
- 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