Eric Zheng

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Education

Bachelor of Applied Science: Electrical Engineering, Expected in 06/2024
University of Toronto - Toronto, Canada

- **CGPA**: 3.94/4.00
- **Academic Accolades**: Dean's Honour List (2019–2021); Entrance Scholarship (2019); BC Achievement Scholarship (2019)
- **Relevant Coursework**: Algorithms & Data Structures **(90%)**; Digital Electronics **(90%)**; Introduction to Control Systems **(87%)**; Applied Fundamentals of Machine Learning **(83%)**; Computer Organization **(90%)**; Software Design & Communication **(84%)**
- **International Exchange Experience**: Completed Credits at Peking University (01/2022 - 07/2022)

Professional Experience

Firmware & Hardware Intern, 08/2022 - Current
Intel Programmable Solution Group – San Jose, California, U.S.

- Supported hardware and firmware teams by contributing to I/O port for FPGA while engaging in testing and troubleshooting processes
- Acquired and applied knowledge in FPGA, firmware and hardware design flows to contribute to internal projects
- Gained proficiency in various FPGA design software including StarVision, Verdi, Perforce and simulation tools
- Leveraged coding capabilities in C, C++ and Verilog across range of problems, demonstrating ability to provide solutions to real-world situations
- Exhibited strong cross-cultural communication skills, collaborating effectively with internationally-based teams to achieve project goals

Project Experience

Design Team Member | University of Toronto Robotics Combat Team, 09/2020 - 01/2022
Spear Weapon Design for Robot Samurai

- Developed 3D model of spear using Autodesk Fusion; designed fire-out rail and reloading mechanism while upgrading weapon design through iterations

Design Team Member | University of Toronto Automatic Rover Team, 09/2019 - 01/2022
Automatic Rover Design for IGVC Competition

- Programmed and tested rover sensors, ultimately selecting 360LiDAR for rovers; built 3D model for mounting mechanism

Summer Research Team Member | University of Liverpool, 06/2021 - 09/2021
Machine Learning to Detect Style Change of Article

- Researched various ML technologies including Natural Language Processing (NLP); coded in C++ and Python (PyTorch) while applying Google BERT model to generate word embeddings

Design Team Member | APS360: Artificial Intelligence Fundamentals, University of Toronto, 05/20201 - 09/2021
Automatic Mask Detection Using ML in Python (PyTorch)

- Explored image processing and computer vision technologies; applied CNN and AlexNet to achieve 98% and 85% accuracy in human and mask detection respectively

Design Team Leader | ECE297: Software Design & Communication, University of Toronto, 01/2021 - 04/2021
Development of City GIS

- Led team to build City GIS using OpenStreetMap Database in C++, distributing responsibilities to ensure fair workload; gained knowledge in software development cycles and processes
- Achieved grade of 95.3% for all program design milestones; awarded 17th place out of 102 participants in milestone 4 in Travel Salesman Problem Algorithm Competition

Data Analyst | NUAA Society Investigation Project, 06/2020 - 08/2020
Investigating Weight Change During COVID-19 Pandemic

- Collaborated with undergraduate student team based in China to study impact of COVID-19 on individuals' weight gain and associated societal changes

Certifications

Introduction to Cloud Computing Certificate | *IBM (In Progress)*
Applied Software Engineering Fundamentals Specialization Certificate | *IBM (In Progress)*
Circuits & Electronics 1: Basic Circuit Analysis Certificate | *Massachusetts Institute of Technology (In Progress)*
Software Engineering Virtual Experience Programme Certificate | *Standard Bank (In Progress)*
Stochastic Processes: Data Analysis & Computer Simulation Certificate | *Kyoto University (2023)*

Skills

- **Technical Proficiencies |** C, C++, MATLAB, Arduino, Verilog, Python, PyTorch, ARMv7 Assembly Language, Git, StarVision, Verdi, Perforce Version Control, Synopsys EDA, Autodesk Fusion, Intel Quartus & OpenStreetMap
- **Professional Skills |** FPGA Development, Firmware Design, Digital & Analog Circuit Analysis, Software Engineering, Artificial Intelligence, Data Analysis, Computer Simulation, Machine Learning, Natural Language Processing, 3D Modelling, Google BERT, Computer Vision, Convolutional Neural Networks, Geographical Information System, Software Development Life Cycle, Algorithms, Cloud Computing & Project Management
- **Qualitative Abilities |** Communication, Cross-Cultural Leadership, Time Management & Problem Solving
- **Languages |** English & Mandarin