Eric Miao

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Education

BASc in Engineering Science + PEY Co-op 2021 – Present
Specialization in Machine Intelligence Expected Graduation: Apr, 2026
UNIVERSITY OF TORONTO
Relevant Courses:

- Computer Programming
- Computer Algorithms and Data Structures
- Digital and Computer Systems
- Electrical Circuits
- Differential Equations
- Calculus and Linear Algebra

Skills

Technical Skills
Languages: Python, Java, JavaScript, C/C++, HTML/CSS, SQL, LaTeX, System Verilog, Arduino
Libraries and Frameworks: React.js, Next.js, PyGame, LWJGL (libGDX and jMonkeyEngine)
Tools: FPGA, MySQL, Git, JetBrains, Visual Studio, PuTTY, Flask, pip, yarn, npm
Soft Skills
Leadership, Communication, Team Orientation, Organization

Projects

Flight Studio https://github.com/MiaoE/Flight-Studio Nov, 2022

- Employed OpenAI and Amadeus API in Python to extract and report essential flight information in json format.
- Designed the frontend log-in and register pages in React.js under Next.js framework and connected them to backend using Flask to access account information stored in backend database.

Order Management https://github.com/MiaoE/Order-Management Jan, 2022 – Apr, 2022

- Constructed a system in C to build and extract restaurant orders stored in queues using dynamically allocated arrays.
- Utilized Valgrind on Linux to ensure proper memory management throughout runtime.

Semantic Similarity https://github.com/MiaoE/Semantic-Similarity Sep, 2021 – Dec, 2021

- Built an intelligent system in Python that learns the similarities of words and computes the synonym of a word given a list of alternatives.
- Utilized string manipulation to separate words and sentences and utilized dictionary to store semantic descriptor vectors of each word.
- Implemented cosine similarity algorithm to compute the similarity between two descriptor vectors.

Duber's Revenge https://github.com/MiaoE/Dubers-Revenge Oct, 2019 – Feb, 2020

- Developed a third-person zombie shooter survival game in Java using the swing library involving progressive difficulty and gear and accessory up levelling.
- Implemented OOP, such as polymorphism, inheritance, encapsulation, and abstraction to create various entities such as zombies, weapons, and utilities.
- Synthesized objects and graphics animation to improve the program tick rate to over 150 hertz.

Experience

Instructor 2019 – 2020
Engineering For Kids Toronto – York Region

- Guided staff through lesson plans and materials during trainings and briefings.
- Promoted positive learning and maintained a positive atmosphere in the classrooms.
- Ensured safety of 15-20 students and resolved any arising conflicts.