ROBERT CIBOROWSKI, **COMPUTER SCIENCE STUDENT**

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Second year Computer Science student with experience in machine learning, desktop and mobile development, teamwork, Git version control, robotics and assembly.

NEO-ZERO **2016-PRESENT**

- Created this Kickstarter funded, C++, OpenGL and Python-based 3D game with the help of Git.
- Programmed the multithreaded engine, "Project Aela", using Git, OpenGL, OpenAL, SDL, FreeType and Zlib. Created a renderer, compressed audio loader & player, animation system, event framework, menu system and resource manager.
- Also used GLSL to write custom 3D and 2D shaders for the engine.

TENSORFLOW DISEASE AI **2020**

- For a hackathon, used TensorFlow and OpenCV in Python to create a three machine learning model, which use a picture of a person's eyes to detect cornea ulcers, heart disease and sickle cell.
- Ran the machine learning models on a Google Coral hardware accelerator using TensorFlow Lite.

THE IRON BEARS ROBOTICS **2016-2018**

- Was a Java programmer, and later a mentor, to this secondary school FRC (FIRST robotics competition) team.
- Worked on sensor communication, motor driving, human control and a proportional-integral-derivative automation system in the Java programming language using Git.
- Led and instructed a group of 8 high school programmers to develop a robot to compete in the FIRST Robotics Competition.

PRODUCT SPECIALIST – APPLE SHERWAY GARDENS **2019-2020**

- Used broad knowledge of products to provide solutions to customers.
- Work with teammates to take care of customer needs on the floor.

Other Projects

- **Linux-based drone:** Led the development of the hardware and software of a Linux-based drone running on an ODROID in the Martingrove Collegiate Institute Computer Science Club.
- **Image search:** Created a Python-based, multithreaded, "Where's Waldo" image search program which finds Waldo in an image.
- **C-based game console:** Created a C-based game console prototype using Linux, a breadboard, a monochrome screen, buttons and speakers. Recreated Google Chrome's Dinosaur Game on the console.
- **16-bit computer:** Constructed a working 16-bit computer using a W65C02S microprocessor, 8 KB EEPROM, 32KB RAM, NAND Gate chip, Hex Inverter and 3-8 decoder.
- **Video game addons:** Created addons for the game *Sid Meier's Civilization V* using Python and XML, one of which was featured in the "Most Popular Items in the Past Week" on Steam for three weeks in a row.
- **Android app:** For UofT Hacks VII, created an Android app, "E-halo", with Android Studio and Firebase, which uses gamification to help users quit vaping.

Other Accomplishments

- **Programming tutor:** Privately tutored a secondary school computer engineering student the fundamentals of C.
- **Broadcasting club:** Co-founded the Martingrove Collegiate Institute Broadcasting club, which live-broadcasted school events. Used several cameras, microphones, and a BlackMagic switcher.
- **Volunteering:** Volunteered at Toronto's Wesburn Manor Long-Term Care as a musician and church-service helper.

Education

COMPUTER SCIENCE - University of Toronto **IN PROGRESS**

- Is currently in second-year studies of computer science at the University of Toronto, St. George campus.