Natanel Roizenman

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Skills

Languages: C, C++, Python, JavaScript, VHDL, Verilog

Tools: WinDBG, gdb, git, Windows, Linux

Experience

Driver Engineering Intern, AMD – Toronto, ON Sep 2024 – Dec 2024

- Increased gaming framerate stability by 40%+ on upcoming platforms by debugging power saving features
- Led debug and issue resolution on a multi-million-dollar, unannounced gaming device, meeting customer milestones
- Improved power saving functionality on latest laptop chips by 10%+, contributing to industry-leading efficiency
- Analyzed software and firmware bugs in DisplayPort, HDMI, HDCP, Thunderbolt 4, and other features using WinDBG
- Regularly contributed to the open-source community by submitting changes to the Linux kernel

Driver Engineering Intern, AMD – Toronto, ON Jan 2024 – May 2024

- Resolved 2x more tickets per week than expected, enabling on-schedule launch of major laptop products
- Tackled critical bugs by working with senior developers to quickly debug and resolve issues
- Optimized DisplayPort compliance time by more than 50% by automating manual intervention with Python

IT Automation Consultant, Bialik Day School – Toronto, ON May 2023 – Sept 2023

- Eliminated 5+ hours per week of work, as reported by FreshService, by automating security badge generation
- Reduced annual cloud software bill by $10,000+ by building internal API tooling for information platforms
- Decreased device intake time by 80%, measured by helpdesk technicians, by automating routine intake procedures

Projects

PyEdsby github.com/chtzvt/PyEdsby

- Revived and maintained the most popular GitHub repo for one of the world's largest Learning Management Systems
- Built a modern API wrapper for Edsby's internal API using Python and Postman

Sarcasm Detection with Compressors natanel.ca/nlp

- Analyzed the viability of a compressor-based approach to natural language processing (NLP) in Python
- Achieved 63% accuracy in sarcasm detection tasks while using far fewer resources than industry-leading BERT

Automated Birdfeeder github.com/nroize/Birdfeeder-Code

- Designed an intelligent birdfeeder to prevent pest access by using an STM32 and a load cell to identify birds

3D Printed E-Reader

- Architected a 3D printed, Raspberry Pi Pico (RP2040) based e-reader design, implemented firmware using C++

Education

University of Waterloo – BASc in Computer Engineering Expected 2027