Michael Gavrincea

michaelgavrincea2024@u.northwestern.edu | 773-440-4081

EDUCATION:

Northwestern University, Evanston, IL
MS/BS in Computer Science with Physics Minor   Expected Graduation: June 2024
Robert R. McCormick School of Engineering and Applied Science   GPA: 3.99/4.0

Relevant Courses: Deep Learning, Massively Parallel Programming W/ CUDA, Low-level Software Development, Probabilistic Graphical Models, Advanced Offense/ Defense, Computer System Security, Computational Optics

Interests: Low level Programming, Machine Learning, Computer Security, Quantum Systems, High Performance Computing

TECHNICAL SKILLS:

Languages: English, Romanian (fluent speaking), Spanish (conversational)
Software: MATLAB, Solidworks, STAR-CCM+, Microsoft Word/Excel, Google Drive, Unity, LaTeX, GitHub
Computer Languages: Python (w/ Pytorch, Numpy), CUDA C++, C, C++, Javascript(React, Nodejs), Typescript, Rust, HTML/CSS, Racket, Java, Linux OS

PROJECTS:

Predicting Interrupts In The Nautilus AeroKernel   March 2023 - June 2023
- Explored the possibility of predicting interrupts in the Nautilus AeroKernel in order to more efficiently handle interrupts in the scheduler.
- Used ftrace in Linux to gather in-depth interrupt scheduling data from the kernel for analysis and prediction.
- Tested several low-overhead statistical models for interrupt prediction and analyzed results.
- Began development of in-kernel implementation of prediction based interrupt scheduling.
- See Paper At: https://github.com/mikey0223/Nautilus-Interrupt-Scheduling

Course Project, 2.5 Week: Emotion Recognition CNN   February 2023 - March 2023
- Created CNN for emotion recognition on Affect Net database using Pytorch
- Learned and utilized GCP to decrease training time resulting ~40% accuracy albeit significantly overtraining
- See informal report at: https://github.com/mikey0223/Project-Papers/

RESEARCH EXPERIENCE:

Northwestern Paragon Lab   May 2023 - Present
Quantum Systems Research
- Developing novel compilation methods for quantum programs on new chiplet architectures.
- Working to develop both optimal and greedy approaches for quantum program compilation onto chiplet architectures using mathematical optimizers such as Gurobi and proprietary solvers.

WORK EXPERIENCE:

CNA Insurance   June 2022 - August 2022
Engineering Web Dev Intern, Small Business Team
- Updated CNA's online Appetite Guide (information guide for agents in the field) using Agile methodology implemented through a Scrum framework.
- Upgraded the existing Appetite Guide by introducing new functionality such as column toggles and sub-table dropdowns, as well as improving usability by making changes to its design in accordance with our project partner.
- Created 2 new Appetite Guides geared towards Workers Compensation and Business Owner's Policy.
- Improved backend Pit-Testing from 95% to 97%.

ACTIVITIES:

Northwestern Formula Racing   September 2020 - August 2022
Aerodynamics & EV Transition Team Member
- Designed and manufactured radiator intake of a Formula racing car for the 2021 Formula SAE competition.
- Performed R&D for switch to electronic throttle for the new EV Vehicle that debuts in the 2022/2023 season.