Ryoma Kawakami

Kawakami.17@osu.edu | 812 Whetstone Ct., Bellefontaine, OH 43311 | 937-539-3502

OBJECTIVE

Engineering internship opportunity for May - August 2020 applying computer science and engineering skills.

EDUCATION

The Ohio State University, Columbus, Ohio August 2018 - May 2022

Bachelor of Science in Computer Science and Engineering, Minor in Physics
GPA: 4.000; Recipient of Maximus Scholarship and Honda - Ohio State STEM Scholarship

WORK EXPERIENCE

HPC Intern at Ohio Supercomputer Center May 2019 - August 2019

- Worked with XALT, an application capable of tracking which applications and libraries are being used on HPC systems, in order to determine usage statistics of all versions of software
- Wrote GitLab webhook ReFrame tests that check functionality of code, automatically launched each time new code, in order to maintain functioning code on the systems

ACTIVITIES AND INTERESTS

EcoCAR August 2018 - Present

- Connected and Automated Vehicles (CAVs) Team
- Developing driver assistance systems that minimize human error and increase road safety, including adaptive cruise control and collision prevention
- Working with hardware (sensors and processors) and software (sensor fusion, filters, and simulations) to allow the vehicle to better analyze its surroundings

Code 4 Community August 2019 - Present

- School Outreach Project: Visiting grade schools to introduce students to programming in an interactive way
- Wrote a two-player game where each player writes a basic program to control a character (with conditionals and loops, as well as commands such as "move (*direction*)") and attempts to defeat the other with snowballs

American Society for Engineering Education (ASEE) August 2018 - Present

- Website Committee: Performing maintenance on website to promote ASEE
- Creating a publicly accessible resource with undergraduate research opportunities that allows professors to submit descriptions and requirements of open positions

VEX Robotics Competition (VRC) Team Captain June 2013 - April 2018

- 2-Time State Champion
- Built robot and programmed movement control with motion profiling (PID) in C++
- Documented the building, programming, and debugging processes during every meeting, to be used as a reference for future competitors

PROJECT EXPERIENCE

Robot Autonomy

- Mounted Raspberry Pi and camera onto robot from project in first year engineering course (FEH)
- Used Robot Operating System (ROS) to interface Raspberry Pi with Windows laptop running MATLAB to allow for faster image processing
- Developed software in Simulink to allow robot to drive between two lanes
- Currently working on robot that navigates the environment with a Jetson Nano doing all of the processing

Fundamentals of Engineering Honors (FEH) Robot Project

- Built and programmed robot using provided robot controller to do simple tasks such as flicking a lever
- Documented entire process, compiling everything into final report and website at the end of the semester

Genetic Algorithm / Neural Network

- Programmed genetic algorithms in C++ to learn to play simple games like Nim, as well as more complex games like Tetris
- Created neural network structure from scratch to allow the AI to make more advanced decisions based on game conditions and to train an AI to identify handwritten digits (from the MNIST database)

QUALIFICATIONS

- Coursework: Fundamentals of Engineering Honors (FEH), Software, Data Structures
- Languages: C, C#, C++, Java, JavaScript, SQL, Python, Ruby, Swift
- Experience with MATLAB, Simulink, Stateflow, CAD software, ROS, Linux
- Knowledge of machine learning, genetic algorithms, neural networks, and transfer learning
- Several years of experience with robotics (building, programming, logistics)