

Ryoma Kawakami

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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

GPA: 4.0

Bachelor of Science in Computer Science and Engineering

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

American Society for Engineering Education (ASEE)

August 2018 - Present

- Website Committee: Performing maintenance on website to market 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 ROS to interface Raspberry Pi with Windows laptop running MATLAB to allow for faster image processing
- Developing software in Simulink to allow robot to autonomously navigate between two lanes

Codeblock Creation

- Wrote a file with many user-friendly functions such as 'move forward', 'set position', 'set indicator light' to assist younger members in learning more advanced programming concepts
- Created user manual based on preferences and questions from youth users

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)
- Languages: C, C++, Java, JavaScript, SQL, Python, Ruby, Swift
- Experience with MATLAB, Simulink, Stateflow, CAD software, ROS
- Knowledge of machine learning, genetic algorithms, and neural networks
- Several years of experience with robotics (building, programming, logistics)