# Hunter Haglid

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## Education

**Purdue University, West Lafayette, IN** **May 2024**
Bachelor of Science, Computer Science Honors, Mathematics GPA: 3.95

## Experience

**Research Assistant - Purdue University, West Lafayette, IN** **May 2021 - Present**
- Led a subteam of 6 researchers to develop a control system for an autonomous object-tracking drone
- Integrated a neural network for object recognition into a ROS node for object tracking
- Simulated drone behavior through software-in-the-loop simulations in Gazebo

**Software Co-Lead - World Competition Underwater Vehicle Team** **September 2020 - Present**
- Engineered an autonomous control system for an underwater vehicle using OpenCV and ROS
- Implemented Agile software development methodologies using Jira to improve productivity, delegate tasks between 11 members
- Created a tool for stitching photos of an underwater object into a continuous photomosaic map

**Software Developer - Youndle.com LLC., Valparaiso, IN** **February 2021 - August 2021**
- Wrote Django unit tests for models and REST API's
- Designed page for business users with HTML5, CSS and Javascript

## Projects

**Autonomous Underwater Vehicle Control System** **January - February 2021**
A control system implemented in ROS allowing an underwater vehicle to follow pipes at a constant depth.
- Wrote an algorithm to recognize pipes in an underwater image and plot trajectory using OpenCV and NumPy
- Implemented a ROS node to use the algorithm to autonomously pilot the drone from the camera feed

**GoTrainer - Computer Vision for Recording Games of Go** **August 2021**
Used OpenCV and a Raspberry Pi camera to record Go games, analyze them, and upload them to a database.

**CO2View - Carbon Emissions Data** **January 2021**
Developed a Django/React.js web app that provides a car's emissions data from a photo of a license plate.

**Dash-It Live (1st Place Hello World Hackathon)** **October 2020**
Created a Django web app that predicts dining hall wait time using a Raspberry Pi to count Bluetooth devices.

**3D Truss Simulator** **December 2019**
Wrote a physics engine in C# to simulate indeterminate trusses, and visualized them using Unity3D.

## Conference Presentations

- Low-Power Object Tracking in Autonomous Drones - Purdue Summer Research Symposium August 2021

## Awards & Honors

- Purdue Corporate Partners Program Scholarship April 2021
- Dean's List and Semester Honors December 2020, May 2021
- 1st Place - Purdue ACM AI Handwritten Digits Classifier Competition (out of 11 teams) November 2020
- 1st Place - Purdue Hello World Hackathon (out of 55 teams) October 2020
- AIME Qualifier, Competitor Feb 2020

## Technical Skills

**Languages**
Experienced: Java, C, Python
Proficient: Javascript, C#, Julia, SQL

**Libraries and Frameworks**
Experienced: NumPy, OpenCV, Django, React.js
Proficient: Tensorflow, Keras

## Relevant Coursework

**Current:** Analysis of Algorithms, Systems Programming, Numerical Methods, Probability
**Complete:** Data Structures & Algorithms, Computer Architecture, Object-Oriented Programming, Programming in C
Linear Algebra I & II, Ordinary Differential Equations, Introduction to Statistics