AARON CASTLE

612-419-3001 | castleaaron@icloud.com| https://www.linkedin.com/in/aaron-castle-850175269/

EDUCATION

Bachelor of Computer Science | University of MN, College of Science and Engineering | 3.88 GPA **2022-2025**
Major | Computer Science

- Relevant coursework:
  - Algorithms and Data Structures, Machine Architecture, Advanced Programming Principles, Introduction to Artificial Intelligence, Machine Learning, VR Game Design
- Clubs:
  - Fencing Club
  - Symphonic Band
  - Cycling Club
- 4x Deans List
- Teaching Assistant - Machine Architecture
- Tau Beta Pi
- Chi Psi Fraternity - Philanthropy Chair, Recruitment Chair, Risk Manager
- Bentson Scholarship recipient

High School Diploma | Eagan High School | 3.85 GPA **2022**

- Graduated with Honors
- Magna Cum Laude
- AP Scholar with Distinction

WORK EXPERIENCE

Allianz Technology | Software Engineer Intern **Golden Valley, MN** May 2024 - August 2024

- Developed WEB APIs using C# and .NET6.0 / .NET 8.0
- Created MVC webapps and webforms apps
- Wrote automated integration tests for APIs using JS and Postman

Sentera | Production Engineer Intern **St. Paul, MN** May 2023 - August 2023

- Worked with the production/software team to work on and create programs to benefit the company
- Hands on work on the production side, manufacturing and building products
- Used python and OpenCV to create a program that can detect color filter placement within the cameras
- Used C++ and QtCreator for FlyPHX, a program based off of PX4

Projects

Drone vibration analysis

Utilized Python, Matplotlib, Pandas, and NumPy, to develop a sophisticated application. This application interfaces with ulog files extracted from drone systems, effectively detecting the presence of vibration anomalies through analysis of accelerometer data. The resultant program generates visual representations, particularly Fast Fourier Transformation (FFT) graphs, which portray the spectral distribution of vibration frequencies and amplitudes. This allows end-users to pinpoint problematic axes and isolate specific components responsible for the identified vibrational problems.

Color filter test

Employing Python, OpenCV and NumPy, I engineered an innovative application aimed to look at photographs taken from a camera source. The fundamental objective of this application centers around the validation of the precise alignment of the six distinct color filters. This is accomplished through a systematic process wherein an RGB image is dissected into its individual color channels, subsequently doing a comparative analysis with pre-defined filtered counterparts. The evaluation effectively shows the accuracy of color placement within the image composition.

SKILLS

- C, Java, Python, C++, C#, OCaml, Assembly, HTML5 and CSS, Microsoft, Linux, R, .NET
- Bokeh, OpenCV, QtCreator, Unity, Docker, Git, RestAPI, Keras, Scipy