

# Kyle Rood

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## EDUCATION

**The George Washington University**, School of Engineering and Applied Science, Washington D.C.

**May 2020**

Bachelor of Science in Computer Science; Minor: Sustainability

**Relevant Courses:** Databases, Embedded Systems, Discrete Math I and II, Algorithms and Data Structures, Software Engineering, Computer Architecture, Physics I and II, Operating Systems, Theory of Computing

**GPA:** 3.6

## TECHNICAL SKILLS

**Programming Languages:** Java, C, HTML, SQL, PHP, Python, PostgreSQL, JavaScript

**Python Libraries:** Flask, Pandas, Matplotlib, Keras

**Programs/Operating Systems:** Filmora, OSX, Linux, Windows, Docker, BitBucket, GitHub

## TECHNICAL PROJECTS

**Generic Web-Based Image Classifier**

**July 2018**

- Python and Flask based pipeline to classify any object the user wants
- Download images of an object, trains a Keras neural network on 256 ImageNet categories, and allows user to upload a test image and the model will identify the object in the image

**Registration System (Team based)**

**Mar. 2018-May 2018**

- PHP based database management system to simulate the application and course registration system at The George Washington University
- Designing system with multiple types of users, each with different roles in the system (admin, applicant, etc.)
- Front end and back end management of the system

**Forest Fire Simulation**

**Oct. 2017-Nov. 2017**

- Simulated a forest fire given a random landscape of trees and a random ignition pattern
- Accounted for the fact that different classes of trees will burn differently
- GUI to display the landscape as it burned, as well as data relevant to the simulation

**Arduino Heart Rate Monitor**

**Feb. 2018-May 2018**

- Arduino based system to monitor heart rate and alert you if your heart rate went above a threshold

## WORK EXPERIENCE

**Software Engineering Intern** *DZYNE Technologies*

**June 2019 - Present**

- Government contract for tool to assess damage after natural disasters
- Creating testing environment for different machine learning algorithms

**Undergraduate Research Assistant, Project AMOS** *GW Computer Science Dept.*

**Dec. 2017 - Dec. 2018**

- Using database of 3,000 cameras and over 1 billion images from all over the world
- Machine learning/Image Classification research projects on this massive dataset
- Lead developer of front and back end of an entire website based in the Python library Flask

**Undergraduate Research Assistant, Project Gateway to CS** *GW Computer Science Dept.*

**Oct. 2017 - Present**

- Modularize a computer science curriculum to bring it to an online audience
- Write and record audio/visual segments to help teach undergraduate students about introductory computer science topics

**Learning Assistant for Python Class**

**Sept. 2018-Present**

- Helping students with in class exercises involving python in the context of data analytics
- Holding office hours to help students with work outside of class

## EXTRACURRICULAR EXPERIENCE

**DoHub, George Hacks Hackathon (1st Place Preliminary Round)**

**Nov. 2018**

- Volunteer Management system for Mongolian Human Trafficking Prevention non-profit called Lantuun Dohio
- Database of volunteers (PostgreSQL), web front end for scheduling/registering for events (Python/Flask/Heroku)

**Engineers without Borders**

**Mar. 2018-Present**

- Designing and building a water catchment system to install on rooves in La Pena, El Salvador