A K I L E S H P R A V E E N

UNIVERSITY OF MARYLAND COLLEGE PARK
B.S. COMPUTER SCIENCE + CYBERSECURITY (GRADUATION: SPRING 2022)
U.S. CITIZEN

akilesh.xyz
apraveen@umd.edu
github.com/akipraveen
linkedin.com/in/akipraveen
(408) 800-8619

COURSEWORK

Advanced Data Structures • Algorithms • Organization of Programming Languages • Linear Algebra for Scientists and Engineers • Object Oriented Programming II • Multivariate Calculus • Intro to Computer Systems • **Discrete Structures • Applied Probability and Statistics**

TECHNICAL SKILLSET

- **Python** *(python-docker sdk, paramiko, logger, opencv, numpy, scipy)*
- **Java** *(data structures & algorithms)*
- **C, Assembly** *(data structures, algorithms, arduino)*
- **HTML5 + JavaScript + CSS** *(Firebase, JQuery, BootStrap)*

GENERAL EXPERIENCE

Hewlett Packard Enterprise • Software Engineering Intern — Jun. 2019 – Aug 2019

- Wrote **Python** module implementing a combination of **internal and open-source libraries** that adhered to the standards of a complex system test framework. Authored supplemental **shell scripts** to aid in automation when necessary.
- Leveraged **Docker** containers, volumes, and images to produce I/O traffic on HPE Storage Arrays in a safer, more efficient, and more customizable way than previously existing VM-based workflows. (Increased I/O potential of each array by ~**115%**)
- Thoroughly documented my project on **Confluence**, tracked/addressed issues on **JIRA**, managed codebase using **Mercurial**.
- Adhered to a strict **Agile/SCRUM** workflow: worked in sprints, consistently met goals, and presented updates during frequent standups.
- Won **1st Prize** at HPE SJC Intern Project Fair + Received **HPE Best in Class Scholarship** for my work, which found use in the InfraTools and the SystemTest teams as an easier, more reliable, efficient, and customizable alternative to already existing VM-based workflows.

U. of Maryland Computer Science Dept. • Introduction to Computer Systems (CMSC216) TA — Jan 2020 – Present

- Leading a bi-weekly discussion section of 30 students, reviewing course content including **UNIX**, **C**, **MIPS Assembly**, process control, dynamic memory management, systems programming and other low-level programming concepts.
- Holding office hours to individually tutor students, help them plan/organize projects, and assist them with finding logical and syntactical errors in their code. Creating detailed LaTeX notes for each lecture for my students (currently hosted on my **Git**hub)

TECHNICAL PROJECTS

CMSC389E – Digital Logic Design Through Minecraft (Head Instructor) — Winter 2020

- Teaching a computer science course at the University of Maryland giving students the opportunity to explore **digital logic design & theory** via the popular sandbox building game, Minecraft. At the end of the course, each student will have created a functional 2-bit computer within Minecraft. (http://www.cs.umd.edu/class/spring2020/cmsc389E/)
- As head instructor, responsible for creating and delivering lecture slides on digital logic design and underlying theory (**Boolean logic**, **adders**, **two's complement, multipliers**, **latches**, **flip flops**, etc.)
- Creating supplementary video lectures to assist students with projects + reinforce course material
- Working to design projects where students create essential CPU components within the Minecraft game (e.g. the **ALU**, **encoders**, **RAM**, **ROM**, **Clock circuit**)
- Creating a **Java**-based program that verifies the integrity of student's Minecraft solutions, then **encrypts** & verifies these solutions with canonical equivalents on the UMD CS submit server.

Project Safeguard — Spring 2017

- Technical lead for 4 teams that worked to create a cross platform Nest-esque home security application. (https:/tinovation-project-safeguard-2017.github.io/)
- Used Git + GitHub to create and maintain a centralized codebase.
- Wrote **HTML5**, **CSS3**, and **JavaScript**, implementing frameworks including **Bootstrap**, **jQuery**, and **Firebase** to create a front-end web interface.
- Wrote code in **Python** to implement the **OpenCV** library for computer vision to run on a Raspberry Pi. Designed a case for our product in **Google Sketchup**, then **3d printed** and successfully assembled it.

ACTIVITIES/LEADERSHIP

HP Enterprise – Hacker Committee

Helped organize 5 'hack days' every fiscal quarter. Provided unique insight from my experience directing multiple hackathons in high school.

Cybersecurity Fellow – Startup Shell

Working to create novel projects and explore topics like Networking and Computer Security with fellow members at UMD's student-run startup incubator.

English Teaching Assistant / Engineering Ethics Teaching Assistant

Creating curriculum, answering student questions, and working with a team of other TAs to produce an enriching experience for a section of ENGL101 and ENEE200.

References Available Upon Request