Mahmudul Rapi

mrapi@princeton.edu
(347) 679-5659
Portfolio: mahmudulrapi.netlify.app

Education

Princeton University, Princeton, NJ   09/2020 – Present

B.S.E. in Computer Science, Expected Graduation Date: May 2024

<u>GPA:</u> 3.94/4.0

<u>Minor:</u> Statistics & Machine Learning

<u>Coursework</u>: Algorithms & Data Structures, Full Stack Programming Techniques, Distributed Systems, Systems Programming, Machine Learning, Computer System Design, Theory of Algorithms, Logic Design

Experience

Amazon – Incoming Software Development Engineer Intern   Starting 05/2023

L3Harris Technologies – Software Engineering Intern   05/2022 – Present
- Working in the Electronic Warfare division to transition team's old version control system to Git and Bitbucket for managing software and VHDL code, resulting in faster development of firmware.
- Worked on unit testing of VHDL code to increase code coverage from 50% to 80%.
- Linted firmware written in C++ to improve readability and code style, and identify bugs quicker.

Princeton University Psychology Department – Software Developer Research Assistant   01/2022 – 05/2022
- Developed a web version of a motor-learning based WebGL Unity experiment, tripling the number of studies ran in Princeton's Intelligence and Adaptation Lab.
- Wrote C# code in Unity to fetch and log experiment data into Google Firebase, using the REST API.
- Wrote Javascript code for uploading settings and trial data for experiment from CSV files into Firebase.

Princeton University Computer Science Department – Course Grader   09/2021 – 05/2022
- Graded over 200 students' programming assignments for the *Algorithms & Data Structures* course at Princeton and provided personalized feedback on code style.
- Helped debug students' Java code for correctness and efficiency.

Centers for Disease Control & Prevention – Data Science Intern   06/2021 – 08/2021
- Used R programming and Microsoft Excel to generate visual data and graphs from CDC's Career Program Selection Reports and develop new recommendations on current selection measures.
- Worked on a content inventory to catalog and organize over 150 directories on CDC's Science Office SharePoint storage system to improve accessibility for internal users.

Activities

The Daily Princetonian (*School Newspaper*) – Software Engineer   09/2021 – Present
- Working on the frontend development (HTML, CSS, Typescript) for various pages on the Daily Princetonian online website which are seen and used by hundreds of students on campus.
- Created a Python script for caching web scraped dining meal data for each day into Google Firebase to significantly speed up user access to the meal data by 5 seconds.

Projects

TigerClimb (Python, HTML/CSS/JS, PostgreSQL): Worked on a team of five to develop a web app allowing hundreds of students involved with the Princeton Climbing Wall to query climbing routes, and add/update routes. Implemented a comment system for users to comment on routes, and save a list of their favorite routes.

Princeton Registrar Application (Python, SQLite): Created a graphical user interface in Python that allows Princeton students and other interested parties to query a database of classes and courses offered during a semester.

Timestamp Saver (Javascript): Created a Chrome extension using the Chrome Storage API to allow users to save timestamps of a YouTube video as they view it, and return back to video at the saved timestamps.

LC3 Computer (Verilog): Programmed a 16-bit processor that implements the LC3 instruction set and executes assembly programs. This processor is Turing complete and is a full-fledged stored program computer.

Skills

Languages: Java, Python, C, C#, HTML, CSS, Javascript, SQL, R, Verilog

Frameworks & Tools: Flask, Node.js, Bootstrap, jQuery, Github, Heroku, PostgreSQL, SQLAlchemy, Google Firebase