Abosh Upadhyaya

students.washington.edu/mihiru

mihiru@cs.washington.edu | (425) 362 4727 | yayabosh | Abosh Upadhyaya

Education

University of Washington — Seattle, WA
B.S. Computer Science – cumulative **3.96/4.00**, in-major **4.00/4.00** — September 2020 – June 2023

Skills

Languages: Java, Python, C, C++, JavaScript, TypeScript, SQL
Full Stack: Node.js, HTML, CSS, LESS, REST APIs, React, NumPy, Spark Java
DevOps: Git, Maven, Gradle, Linux, JUnit, Bash/zsh
School/Personal: data structures/parallelism, machine learning, x86 assembly, event-driven/functional programming

Projects

The Traveling Husky - github.com/yayabosh/the-traveling-husky — March 2021

- Developed an app written in **Java** that generates the shortest possible route between a set of destinations given by a user. Users can choose from a list of destinations around the University of Washington or any points on Earth.
- Implemented 4 self-created graph traversal algorithms along with 2 existing algorithms related to the traveling salesman problem, displaying comparisons between each algorithm's runtime and accuracy.
- **Reduced 30% of CPU usage** by using self-built algorithms without libraries and minimizing heap memory consumption.

When Will It _____? - github.com/yayabosh/when-will-it — March 2021

- Designed a web app written in **JavaScript** that predicts the specific time period when a given weather will occur in any U.S. location. Information about the time period, including detailed forecasts, is provided.
- Utilized **Node.js** to fetch data from weather APIs and geocode U.S. locations.
- **Optimized performance** by using asynchronous API fetching and reducing wait times on the client side.

One Hundred Percent - github.com/yayabosh/one-hundred-percent — January – March 2021

- Web app written in **JavaScript**, **HTML**, and **CSS** (via **LESS**) that calculates the grade needed on an assessment to achieve a certain grade in a class; also calculates changes to an overall grade following one or more assessments, weighted category changes, point additions, extra credit, and more.
- Coded each grade-calculating function without the use of any libraries to optimize runtime and space.
- Collaborated with a team of 3 others, employing software development strategies like **pairwise programming**, **unit testing**, and **code reviews**.

Experience

Advanced Computer Science Instructor — Remote
Juni Learning — July 2021 – Present

- Teach advanced computer science lesson plans ranging from basic data structures to applied programming over Zoom for students ages 8-18 while adapting to student needs and interests.
- Provide updates on student progress and constructive feedback based on learning assessments.
- Maintain thorough records for each student, covering multiple courses and skill level progression.

Math and Computer Science Tutor — Sammamish, WA
Self Employed — June 2020 – July 2021

- Spent 5–10 hours per week helping high school students with various math and computer science subjects including algebra, calculus, understanding data structures, and object-oriented programming.
- Designed and implemented individualized study plans for three high school students, helping raise their grades in math and computer science courses to A's. Worked with students to create actionable and accommodating goals.
- Provided "ease-in" preparatory courses for the upcoming school year in AP Calculus and AP Computer Science.

Extra-Curricular Activities

Mountains to Sound Greenway Trust: Volunteer at tree nurseries to nurture tree saplings that will be planted across Washington state. Aiding in invasive species removal, litter clean-up, and sapling planting.
Algorithmic Trading Club, Association for Computing Machinery, Quiz Bowl: Club member at the University of Washington.