Vikram Singh

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EDUCATION

University of Massachusetts Amherst

- B.S. in Computer Science, Mathematical Computing. GPA: 3.92/4.0. **Expected in May 2023**
  - CS Courses: Introduction to Artificial Intelligence (CS383), Introduction to Computation (CS250), Computer Systems Principles (CS230), Programming Methodology (CS220), Reasoning Under Uncertainty (CS240), Programming with Data Structures (CS187)
  - Math Courses: Introduction to Linear Algebra (MATH235), Calculus III (MATH233), Calculus II (MATH132)

TECHNICAL SKILLS

- Java, Swift, C, C#, Python, HTML, CSS, JavaScript, React, Angular.
- Eclipse, Xcode, Android Studio, Visual Studio Code, Linux/Unix, D3.js, GitHub, Microsoft Office, Miro.

WORK EXPERIENCE

Liberty Mutual Insurance, User Experience/Software Engineer Intern **May 2021 – Current**

- Shaped Liberty Mutual's design system (FLUID) for the Global Risk Solutions department by creating reusable, technology agnostic components. This ensures interface/experience consistency throughout internal applications, leading to a decrease in development time and cost, as well as an increase in user retention. This project involved working on an Agile team, using UX design principles and tools (Sketch and Figma), as well as front-end development skills (React and StencilJS).
- Leveraged background modeling/analytics knowledge to assist in the Agile UX design process of the Model Alert Response System (MARS), thereby providing a comprehensible bridge between data scientists and underwriters to ensure that data (for risk and priority assessment models) is accurate and complete.

BUILD UMass, Software Engineer **September 2020 - Current**

- Built and implemented a D3.js Data Visualization component (Zoomable Circle Packing) into a React web application that helps manage, navigate, and visualize data around organizations (and their properties).
- Developed an algorithm that structures and formats unordered back-end data into organized, hierarchical data to be used on the front-end. This involves sorting, searching, and making use of various data structures to minimize runtime and space complexity
- Working on a team and using source control tools (git)

Freelance, iOS Software Developer **April 2020 - October 2020**

- Worked with Swift and Xcode debugging tools to modify existing software, correct programming errors, and improve time and space complexity for clients' applications.
- Leveraged database technologies such as SQLite, Core Data, Realm (and Realm Sync), and Firebase to allow applications to store data both locally and in the cloud.
- Developed complex algorithms to accomplish clients' tasks - such as analyzing user goals and health data to plan and construct a science-based workout and diet program.

PROJECTS

Studium - Time Management (2020-2021)

- iOS Application that utilizes MVC design pattern to allow students to track assignments, courses, and healthy habits, saving over 1 hour/week of scheduling on average. Xcode, Swift, UIKit, Realm, Cocoapods.
- Utilizes Algorithms to automatically analyze and schedule events around courses and assignments, thereby aiding over 100 students by providing impactful tools for time management and organization.

Pocket Planet (2019 – 2020)

- Mobile Game that teaches about Earth's climate crisis and investing in sustainable energy and its impact on our planet.
- Uses Object Oriented Programming concepts, along with Algorithm Design and Analysis, which provide a clean and simplistic structure for the project. Unity Game Engine, C#, Visual Studio.