Vikram Singh

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EDUCATION

University of Massachusetts Amherst

- B.S. in Computer Science, Mathematics. GPA: 3.92/4.0. **Expected in May 2023**
  - CS Courses: Artificial Intelligence, Introduction to Computation (Discrete Mathematics), Computer Systems Principles, Programming Methodologies, Reasoning Under Uncertainty, Programming with Data Structures.
  - Math Courses: Introduction to Linear Algebra, Calculus III, Calculus II.

TECHNICAL SKILLS

- Python, SQL, R, TensorFlow, scikit-learn, NumPy, pandas, D3.js
- Java, Swift, C, JavaScript, HTML5, CSS3, React.
- Eclipse, Visual Studio Code, Linux/Unix, Git, Microsoft Excel, Jira, Miro, Figma.
- Object Oriented Programming (OOP), Data Structures, Algorithms, Mobile/Web Development, UX Design, ML

WORK EXPERIENCE

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

- Shaped Liberty Mutual's design system (FLUID) by creating high-performance, reusable, technology agnostic components, thus ensuring interface/experience consistency throughout internal applications, decreasing app development time/cost, and increasing productivity for users. This project involved communicating in an Agile environment, using UX design principles and tools, as well as front-end development tools (React and StencilJS).
- Leveraged background modeling/analytics knowledge to assist in the Agile UX design process of the Model Alert Response System by designing data visualizations and a communication platform, 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 - Current)

- 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.