Robin Singh

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EDUCATION

University of Massachusetts   Dartmouth, Massachusetts
Master of Science in Computer Science; ***GPA: 3.67/4.00***   *Sep. 2022 – May 2024*
Coursework: Advanced Machine Learning, Algorithms, Database Design,
Paradigmatic Software Development, Automata, UI/UX

University of Mumbai   Mumbai, India
Bachelor of Engineering in Computer Engineering; ***GPA: 3.25/4.00***   *Aug. 2018 – May 2022*
Thesis : Real Time, Low Latency Fire Detection and Alert System

Coursework : Natural Language Programming, Artifical Intelligence, Theory Of Computation, Data Structures, Software
Engineering, Operating Systems, Mobile Computing, Database Management System, Computer Organization.

TECHNICAL SKILLS

Languages: Java, Python, C, SQL (Postgres), JavaScript, TypeScript, HTML/CSS, Ruby
Frameworks: React, Node.js, Django, Flask, Next.js, Material-UI, MongoDB, Redux, Tailwind CSS
Developer Tools: Git, Docker, TravisCI, Google Cloud Platform, VS Code, Visual Studio, PyCharm, IntelliJ, Eclipse
Libraries: Numpy, Keras, Tensorflow

EXPERIENCE

Software Engineering Intern   *May 2023 – September 2023*
Cool Green Power   *Boston, Massachusetts*
- Boosted development efficiency **by 20-30%** through optimizing React components with efficient **design patterns**, including the use of **stateful and stateless patterns**, and building reusable components.
- Leveraged Redux and profiling tools to streamline state management and data exchange, enhancing collaboration between components, **reducing API calls by 15%, and contributing to a 10%** improvement in overall system performance.
- Enhanced application aesthetics and usability by developing custom user interface with **Tailwind, Material UI & React.**
- Coordinated with the back-end developer to design and implement a robust system architecture for a MERN stack app.
- Implemented **PWA with offline push functionality**, driving a remarkable user experience (UX) improvement of over **50%** through enhanced offline access and seamless data synchronization.
- Engineered an intuitive user dashboard interface with real-time graphs for instant cost and utility insights, allowing for quick custom alerts and issue reporting, **saving users 30+** hours per month.

Software Development Intern   *Mar. 2021 – Jun. 2021*
GirlScript Foundation   *India*
- Ranked **21st out of 2,000 participants** in an immersive open-source program and achieved top performer status. Created a mathsolver application that uses Nerdamer and Katex libraries to provide step-by-step solutions for calculus and algebra.
- Researched & Proposed the idea of documentation to simplify the learning curve, leading to an increased **user base by 20%**
- Assisted in resolving over **300 bugs** across multiple repositories, improving software quality and reliability.
- Collaborated with team to enhance application's UI using **Agile**, increasing responsiveness by 50%.
- Incorporated Test Driven Development, resulting in a **30%** decrease in rework and **20% improvement** in final product quality.

Teacher Assistant   *Jan 2023 – May 2023*
Univeristy of Massachusetts   *Dartmouth, MA*
- TA to Dr.Thomas W Gyeera. for course **CIS 180 - Object Oriented Programming Using Java**.
- Leading lab sessions for **60+ students**, holding office hours, review sessions and grading papers/ assignments.
- Collarabting with professor to design and develop course materials and assignments. Assisted students in troubleshooting technical issues with programming software and tools.

PROJECTS

Social Networking Website | *MongoDB, React, Node.js, Express.js*   Code
- Implemented **CRUD APIs** for efficient database management and manipulation, improving data organization and control.
- Used React-Router to transform the application into a single-page application, improving the UX for **over 1k users**.
- Integrated **JWT authentication** and secure encrypted password reset, enhancing security and user experience.
- Utilized the Context API to address prop drilling issues and efficiently manage data and state in the application, resulting in a **50%** reduction in code with clean and organized code.

Blog Website | *Ruby, Jekyll, Bootstrap, JavaScript, HTML, CSS*   Code

- Designed a scalable blog website using the Jekyll framework, incorporating responsive design principles with Bootstrap, and optimized for performance with Lighthouse score analysis for a user base of **5000+ users**
- Standardized custom templates, layouts, and includes using Liquid, a template language for Ruby, to customize and automate site generation, resulting in a **60%** reduction in the time needed to create new posts/pages.
- Employed static site generation to improve website performance and efficiency, which led to a **34%** faster speed.

Real Time, Low Latency Fire Detetction System | *Python, Machine Learning, Deep Learning*   Code
- Developed a customized CNN with **Transfer Learning using the Inception V3 model** to detect Fire through a live video feed.
- Elevated model prediction accuracy by generating **15k images** via data augmentation on a **2k+** image set.
- Achieved a prediction accuracy of over **96%** on the evaluation set, resulting in an **18%** increase in accuracy compared to other models

Pythorn | *Python, Sphinx, ReadTheDocs*   Code
- Developed **Python library** with clean DSA examples, contributing to the community and aiding developer education.
- Published the library on PyPI (Python Package Index) and received over **3,000+ downloads**
- Automated library docs with **Sphinx and ReadTheDocs**, enhancing user understanding and resulting in **30%** amplified usage.