

# RUSHANK MIHIR SHAH

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## EDUCATION

<b>University of Southern California, Los Angeles, CA</b> M.S. in Computer Science.	<b>Aug 2022–May 2024</b> (CGPA 3.81/4)
<b>Dwarkadas J. Sanghvi College of Engineering, Mumbai, India</b> B.E. in Information Technology.	<b>Aug 2018–May 2022</b> (CGPA 9.55/10)

## PROFESSIONAL EXPERIENCE

### **C3.AI, Redwood City, USA | Associate Software Engineer** **July 2024–Present**

- Developed and deployed 5+ enterprise-level Generative AI applications, driving \$1.7M+ in revenue across sectors like State & Local Government, Manufacturing, and Iron & Steel. Utilized PGVector DB for Retrieval-Augmented Generation (RAG), integrated Gemini/OpenAI LLMs, and leveraged React, RhinoJS, and Python for scalable, high-performance solutions.
- Engineered and optimized data ingestion pipelines for structured (MSSQL, BOMSNets) and unstructured (PDF, Docx) data, applying advanced chunking and indexing techniques to ensure efficient, accurate data retrieval.

### **ClaimBrite Inc, Remote (Colorado), USA | Software Engineer Intern** **Feb 2024–May 2024**

- Built and launched a responsive, customer-facing website using Next.js and Tailwind CSS, improving user experience through optimized performance, modern design, and mobile-first responsiveness.
- Collaborated cross-functionally with designers, product managers, and stakeholders in an agile development environment to collect user feedback, iterate on features, and implement design improvements, resulting in a more intuitive and user-centric website.

### **C3.AI, Redwood City, USA | Software Engineering Intern** **Jun 2023–Aug 2023**

- Developed and maintained an AI-based predictive maintenance platform for a manufacturing facility with 1500+ sensors, collaborating with a leading U.S. private company and used JavaScript, Python to optimize data processing and predictive analytics.
- Built a full-stack application supporting 800+ ML models, allowing users to customize hyperparameters and test models in real-time via a user-friendly UI, streamlining model experimentation and deployment.

### **Keck Medicine of USC, Los Angeles, USA | Application Developer Intern** **Oct 2022–May 2023**

- Collaborated with the Salesforce team to enhance the call center experience at Norris Cancer Hospital, using Apex and Lightning Web Components (LWC).
- Utilized SharePoint, Power Automate, and JavaScript to streamline and automate manual tasks within the organization.

### **Harvard Medical School (McLean Hospital), Boston, USA | Research Developer** **Jul 2021–Jul 2022**

- Developed a Mental Health application for Dr. David Rosmarin, managed all the project's backend and iOS side (Flutter), including HIPAA compliance, and worked on the security aspects of the application.
- Leveraged AWS services including DynamoDB, Elastic Beanstalk, Route 53, Cognito, and S3 for backend development, routing, authentication, and video hosting, ensuring scalable and secure application infrastructure.
- Acted as the project's only POI (Person of Interest) by contacting the cloud security team and leading the team with the security and hosting services.

### **METX Robotics, Mumbai, India | Research and Teaching Assistant** **Apr 2019–Jun 2021**

- Designed and developed 'Amra,' a service robot, and took a leadership role in overseeing the entire software architecture and implementation. The project was successfully showcased at major conferences and seminars, including those at NESCO, Mumbai and Grand Hyatt, Mumbai.
- Applied hands-on programming expertise in Arduino to develop and implement projects such as obstacle avoidance systems utilizing Ultrasonic and IR sensors, showcasing practical problem-solving and hardware integration skills.

## ACADEMIC PROJECTS AND RESEARCH PAPERS

### Virtual Labs

- Developed and deployed virtual lab simulations for schools across India, enabling over 2 million students to perform lab experiments remotely, bridging the gap where physical labs are unavailable.
- Designed and implemented the front-end of the application using ReactJS, enhancing user engagement with interactive animations powered by Rive.
- The project is included as part of CDAC and is hosted under the Vidyakash Portal, URL for open access.

### Automated API and Database Management

- Devised a new system where developers can build an automated backend system, using ReactJS and NodeJS.
- Ensured the security of user data using tools and techniques such as JWT-based authentication, format string vulnerability checking at every point, and API Rate Limiters to avoid DDoS attacks.
- Authored and published a paper on the same system in International Journal for Research In Applied Science and Engineering Technology, DOI: 10.22214/ijraset.2022.41827.

### Dynamic Word Embeddings for compression of deep learning models

- Employed a custom rolling hash algorithm to compress word embeddings by up to 94% without compromising model accuracy. Optimized for deployment on resource-constrained platforms such as mobile devices.
- Leverages Python, Pandas, NumPy, and PyTorch for implementation.

### A Novel Approach to Sorting Algorithm

- Created a new sorting algorithm that could sort items in O(n) time complexity and utilized the technique of sorting based on weights to sort the elements.
- Authored a paper on the same, which was accepted by the conference, "ANTIC – 2021", and published in CRC Press's (Taylor and Francis Group) book titled, "Research Advances in Network Technologies."

## TECHNICAL SKILLS

- **Languages and Databases:** Java, JavaScript, HTML & CSS, SQL, NoSQL, C++, C#, Python, R, Swift, TypeScript, PGVector.
- **Mobile, Web, and Desktop Frameworks:** Flutter, ReactJS, NodeJS, ExpressJS, NextJS, Django, JavaFX, Bootstrap, MaterializeCSS, Tailwind CSS, Angular, jQuery, iOS, AJAX, Flask, MaterialUI.
- **Software and Tools:** Git, GitHub, Firebase, MySQL, VSCode, Android Studio, Jupyter Notebook, AWS DynamoDB, AWS Amplify, AWS Elastic Beanstalk, AWS Route 53, REST Architecture.

## ACHIEVEMENTS & EXTRACURRICULAR ACTIVITIES

- Served as a Technical Coordinator at **Google Developers Student Club, DJSCE** and as a Secretary at **DJCSI** from 2019 to 2021.
- Publish blogs on **Technology and Development** on Medium.com to contribute to the open-source community since Oct 2020.