VIBHA SUNEEL NAVALE

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EDUCATION

University of Illinois Chicago, IL — Jan 2024 – Expected Dec 2025
Master of Science in Computer Science — GPA: 4.00

RNS Institute of Technology, Bengaluru, India — 2017 – 2021
Bachelor of Engineering in Information Science — GPA: 9.08

TECHNICAL SKILLS

Languages & Databases	JavaScript/TypeScript, Java, Python, SQL, PostgreSQL
Frontend & Backend	React, Next.js, AngularJS, Node.js, Express, REST APIs
Cloud, DevOps & Tools	AWS, Docker, Git, CI/CD, Jira, Supabase, Postman, DBeaver, New Relic, Sumo Logic

EXPERIENCE

Software Engineer — Aug 2021 – Dec 2023
Cimpress — *Bengaluru, India / Remote*

- Developed and implemented **REST containerized microservices** using **Node.js** and **Express** for a logistics product, optimizing shipping processes and saving up to **$100K annually**. Built front-end components with **React** and **Angular**, and managed databases with **PostgreSQL**.
- Enhanced **API performance** by implementing caching mechanisms for frequently accessed data, reducing response time by **40%** (from **900 ms** to **530 ms**) and lowering costs associated with third-party API calls.
- Utilized **AWS services** (**ECS**, **EC2**, **Lambda**, **API Gateway**, **Secrets Manager**) and deployed infrastructure via **CloudFormation** to maintain IaC. Enhanced security with **WAF**, automated secrets rotation, and secure **S3** access.
- Migrated logs from **Sumo Logic** to **New Relic**, cutting logging and monitoring costs by **75%** and consolidating monitoring capabilities into a single platform.
- Set up **GitLab Runner** and **CI/CD pipelines** and migrated services to **ECS**, improving deployment efficiency and reducing operational overhead.

Graduate Teaching Assistant — Aug 2024 – Present
University of Illinois Chicago — *Chicago, IL / On-site*

- Grade **Software Engineering** assignments, projects, and exams, providing timely feedback on implementation quality, testing depth, and documentation.
- Facilitate **coding project demos**, guiding students through key technical concepts and development processes.
- Support students individually and in groups with **coding**, project requirements, and software engineering principles, including Git branching, CI checks, and code review etiquette.

PROJECTS

Tech Support for Older Adults – MS Project — Jan 2025 – May 2025
Led a mixed-methods research study on older adults' preferences for video-based tech support vs. traditional methods, and developed an **automated system** that generates **image-based step-by-step guides** by using a foundational action model and extracting UI elements from YouTube tutorials using **OpenCV**. The tool improves accessibility by converting video content into a more user-friendly format.
Technologies: HCI, UX Research, OS-ATLAS, OpenCV, React, FastAPI

LLM Training & Deployment on AWS — Sep 2024 – Nov 2024
Developed **LLM pipelines** on AWS using **Hadoop** for tokenization and **Spark** for training. Created a **REST APIs Akka HTTP** and deployed the microservice with **Docker** on **EC2** and **Lambda**, exploring scalable inference with **Ollama**.
Technologies: Scala, Hadoop, Spark, EC2, Lambda, EMR, Akka HTTP, Ollama

Find Your Roof — Jan 2024 – Apr 2024
Built a **full-stack web application** using **React**, **Next.js**, and **Supabase** to help unhoused individuals in Chicago find shelters, affordable rentals, and job opportunities. Focused on accessibility and user needs to support real-world impact.
Technologies: React, Next.js, Supabase, TypeScript, Tailwind CSS

PAPER PUBLICATIONS

How BYOD Sessions Support Ongoing Digital Engagement in Older Adults — Apr 2025
(HCI, Interaction Analysis, Submitted to ACM ASSETS 2025)
Conducted interaction analysis of **13 bring-your-own-device sessions** with **83 older adults**, identifying spatial formations and assistance types. Documented evolving motivations through peer interactions and privacy constraints. Co-authored a paper presenting **design considerations** for technology support tools for independent digital engagement and social support.