Abhishek M. Shastry K.

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EDUCATION

The University of Iowa, Iowa City, IA, USA — Aug. 2023 – May 2025
Master of Computer Science — CGPA: 4.00/4.00

Alva's Institute of Engineering and Technology, Mangalore, KA, India — Aug. 2017 – Aug. 2021
B.E., Electronics and Communication Engineering — CGPA: 8.74/10.00

EXPERIENCE

The University of Iowa — Iowa City, IA, USA
Software Developer — Jun. 2024 – Aug. 2024

- Contributed to the development of an Electronic School Medication Administration Record (eSMAR) system, streamlining medication processes and reducing administration errors by 25%, which improved patient safety and compliance.
- Designed and implemented native system notifications for late scheduled prescriptions, reducing medication administration delays by 40% and improving overall medication adherence by 35% in K-12 schools.
- Expanded student contact capabilities by adding email and language fields, improving communication reach by 30%.

Project Assistant — Aug. 2023 – Dec. 2023

- Implemented DOM optimizations using vanilla JS, achieving a 2x increase in code efficiency and application performance.
- Revised animation control functionalities for a weather forecast website, through systematic refactoring, eliminating hard-coded elements, and enhancing overall code readability. This decreased overall code size by 25%.

HealthEdge Software — Bangalore, KA, India
Software Engineer (Student Intern for first six months) — Jan. 2021 – Jul. 2023

- Played a pivotal role in a Kubernetes project, focusing on the containerization of HealthEdge products, leading to a 3x increase in deployment efficiency and enhanced scalability.
- Collaborated with cross-functional teams to implement automated branch creation through Jenkins pipelines, achieving a 75% reduction in release process time and enhancing overall workflow efficiency.
- Managed and prioritized tasks in a Kanban-driven development process, resulting in a consistently streamlined project flow.
- Mentored HealthEdge interns by providing comprehensive product knowledge and technical guidance.

SKILLS

- **Programming and Web Development:** JavaScript, TypeScript, React, Node.js, NestJs, Java, C, C++, Python, HTML, CSS
- **Developer Tools:** Kubernetes, Azure, Docker, Shell (Bash, Zsh), Git, Electron, Bootstrap, Flask, PostgreSQL, MySQL, Oracle SQL Developer, Oracle WebLogic Server, Jenkins, Jira, SonarQube
- **Miscellaneous:** Spring Boot, Hibernate, Apache Camel, Selenium, JUnit, JPA, SOAP, REST Web Services, Agile

PROJECTS

AI-Powered Educational Video Learning Platform — Nov. 2024 – Dec. 2024

- Developed an AI-powered video learning platform leveraging GPT-4, Whisper, and LLaVA to automate video transcription, summarization, and intelligent search, improving accessibility and engagement for educational content.
- Implemented a responsive frontend and integrated multimodal AI models with RAG (Retrieval-Augmented Generation), enabling real-time search with vector databases to achieve 50% faster retrieval and 20% lower latency.

Automatic Speech Recognition — Sep. 2024 – Nov. 2024

- Implemented an automatic speech recognition input pipeline with dynamic batching, processing 28,000+ utterances while optimizing frame splicing and subsampling, reducing training time by 35%, and ensuring 98% feature retention.
- Built an end-to-end speech recognition model, reducing character error rate by 22% through iterative forced alignment and DNN training, improving speech-to-text accuracy and token synchronization.

Hospital Management System — Feb. 2024 – Apr. 2024

- Developed a microservices-based hospital management system with 4 independently deployable services for validation, patient information, appointments, and scheduling, enhancing system reliability and scalability by 30%.
- Achieved 25% faster data processing by building a microservice to convert patient data into FHIR (Fast Healthcare Interoperability Resources) format for secure and standardized healthcare data exchange.

Micro Weather Station — Jan. 2021 – May 2021

- Built a Raspberry Pi-based micro weather station measuring temperature, humidity, soil moisture, UV radiation, air pressure, and air quality, uploading 1,500+ daily data points for processing with 99% uptime. [mws-project.netlify.app]
- Enhanced measurement accuracy by 20% and cut costs by 15% using a specialized PCB and high-accuracy sensors.
- Developed an android mobile application that gives users the ability to perform real-time analysis on processed data from multiple micro weather stations. The application is published in Amazon Appstore: MWS Weather App.

SELECTED ACHIEVEMENTS

2022 Quarterly Star Performer at HealthEdge | 2019 Semi-finalists in Texas Instruments India Innovation Challenge Design Contest