Gareshma Nagalapatti

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Education

Santa Clara University, *Master of Science in Computer Science* (Expected) Jun 2026
Coursework: Machine Learning, Advanced Operating Systems, Data Structures and Algorithms, Computer Architecture

SSN College Of Engineering, *Bachelor of Technology in Information Technology* Aug 2014 – May 2018
Coursework: Artificial Intelligence, Object-Oriented Analysis and Design, Database Management Systems

Internship

Frugal Innovation Center, *Flutter Developer, Santa Clara, California* April 2025 – Present

Bilingual Math Learning App

- Building a cross-platform mobile app using Flutter to support bilingual (English–Spanish) math education for school students.
- Designing and implementing features that allow real-time language switching, enabling students to learn math concepts in their native or preferred language to boost comprehension and retention.
- Integrating interactive educational components, such as multiple-choice quizzes, step-by-step math tutorials, and visual problem explanations, to make learning engaging and effective.
- Ensuring offline access, minimal data usage, and smooth performance on low-end devices to align with frugal innovation principles.

Experience

Elppa Tech Solutions, *Software Engineer, Chennai, India* May 2023 – Aug 2024

- Designed and optimized scalable backend solutions using **Java** and **Application Engine** to enhance the performance and functionality of the **Compensation** and **TalentCoach** modules within the HR system.
- Led data synchronization between **Java-based microservices**, **PeopleSoft**, and **Oracle Cloud**, improving payroll and compensation processes with **92% accuracy**, streamlining data flow across systems.
- Automated HR data transmission workflows by developing **Java-based REST API integrations**, reducing a **2-hour** manual process to just **5 minutes**, achieving **98% data accuracy** and ensuring data security.
- Designed and developed end-to-end solutions using **Java-based backend services**, **Oracle SQL**, and **REST APIs**, improving system reliability, scalability, and performance.

Multitech EDA Systems, *Software Engineer, Bangalore, India* Feb 2023 – Apr 2023

- Optimized website performance by improving load speeds and overall efficiency by **30%**, enhancing user experience.
- Refactored front-end code, cutting load times by **40%** and enhancing rendering efficiency for seamless performance.
- Applied problem-solving and debugging skills to resolve performance issues and deliver production-ready solutions.

Aspire Systems, *Software Engineer, Chennai, India* Jun 2018 – Oct 2019

- Contributed to the development of ImpacShield, a secure application designed to manage confidential client and payroll data, ensuring data protection and privacy compliance.
- Developed a custom Outlook-like business mail system, enabling email management and calendar event scheduling, integrated with **Office 365 APIs** to streamline communication workflows.
- Built a PoC for real-time synchronization, enabling instant image sharing across web and mobile browsers, and skilled in **REST APIs**, front-end, and back-end development.

Research Experience and Publications

Interactive Audio Indexing and Speech Recognition Navigation Assistance Tool

Research Assistant | Collaborated with Dr. P. Vasuki   Aug 2017 – Jun 2018

- Designed and developed an audio navigation tool using **PocketSphinx** speech recognition, enabling precise retrieval from audio recordings by indexing spoken content into searchable timestamps.
- Applied **NLP** and audio signal processing techniques to improve speech-to-text accuracy and optimize search performance, enhancing the PocketSphinx API for faster and more accurate query responses.

Publication: Gareshma N, Dr. P. Vasuki, Preethi S. *Interactive Audio Indexing and Speech Recognition-based Navigation Assist Tool for Tutoring Videos*, ICSCDS, April 2022.

Projects

Library Management System

- Built a web-based Library Management System for book lending and catalog management using HTML, PHP, and Oracle SQL.
- Developed an intuitive user interface and optimized database queries for improved efficiency.

Conference Management System

- Developed a system for paper submission, registration, and tracking using object-oriented principles, with Hibernate for efficient data management and a scalable backend architecture.
- Added paper review, scheduling, and confirmation features to streamline event management.

Skills

Programming Languages: Java, Python, .NET, C, C++, JavaScript, SQL, PeopleCode, HTML, CSS

Technologies: REST APIs, Web APIs, Flask, PS Query, Angular, Microservices

Frameworks & Technologies: Visual Studio, VS Code, Flutter, Postman, SQL Developer, DBeaver, PeopleSoft AppDesigner, ServiceNow

Version Control & CI/CD: Git, Jenkins

Achievements

- Presented a research poster at the IEEE International Conference on Communication, Computers and Signal Processing (ICCCSP-2017), held at SSN College of Engineering.
- Received a Memento for achieving top scores in Mathematics during the academic year 2013–2014.
- Honored with the Best Student Award for outstanding academic and extracurricular performance (2013–2014).

Responsibilities

- Elected Joint Secretary of the Association of Information Technology, leading academic initiatives and student activities during 2016–2017.
- Served as Publicity Head of the Association of Information Technology in 2017–2018, managing event promotions, digital content, and outreach.

Workshop & Participation

- Participated in Cyber Awareness Programme – Insight Perspective conducted by the Department of IT in association with IEEE Society.
- Attended SSN Youth Conference (SYCon) organized by the SSN Entrepreneurship Development Cell.