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

Flutter Developer , *Frugal Innovation Center* 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, 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.
- Secured second highest academic rank in Sanskrit during the academic year 2012–2013.
- Honored with the Best Student Award for outstanding academic and extracurricular performance (2013–2014).
- Recognized with a Certificate of Punctuality for consistent attendance and discipline during 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.