

Archana Ganesh

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EDUCATION

University of Massachusetts, Amherst

Amherst, MA, USA

Master of Science in Computer Science (CGPA: 3.84/4.0)

Sep, 2022 - May, 2024

- **Relevant Coursework:** Advanced Algorithms, Theory and Practice of Software Engineering, Distributed and Operating Systems, Secure Distributed Systems, Computer and Network Security, System Defense and Test, Applied Information Retrieval

Grading Assistant: Theory and Practice of Software Engineering

- Assisted course instructor with evaluating assignments and providing feedback for a graduate level course of **130+** students

National Institute of Technology, Tiruchirappalli

Trichy, TN, India

Bachelor of Technology with minor in Computer Science and Engineering (CGPA: 8.41/10.0)

Jul, 2016 - Jun, 2020

- **Relevant Coursework:** Database Management System, Computer Organization, Big Data Analytics, Neural Networks

EXPERIENCE

Railinc Corp.

Cary, NC, USA

Software Engineering Intern

Jun, 2023 - Aug, 2023

- Developed features for a dashboard application that tracked parent or child groups of components and ownership of services on **AWS**
- Engineered the end-to-end logic using **Angular** and **Java** to move a subset of related components from one service to another while ensuring that the target service maintained valid relationship with all components in the subset
- Built **PostgreSQL** filters to categorize components by service readiness and relationship with different component types

Citi

Chennai, TN, India

Software Engineer

Aug, 2020 - Jul, 2022

- Developed internal features as **micro-frontends** to streamline development and management, ensuring cross-framework support
- Designed and implemented applications using **Angular**, **HTML/CSS**, **TypeScript**, and **single-spa** to streamline feature modularization
- Achieved a **60% decrease** in load time of applications that resulted in adoption of the solution by various teams
- Expanded the use case by implementing **Webpack Module Federation**, which seamlessly enabled selective module export to other teams while maintaining private modules for internal use, thereby enhancing code reusability across different teams
- Guided other teams with the development of micro frontends and made sure their applications followed business standards
- Implemented pilot version of **App Dynamics** end-user monitoring and received Takes Ownership and Succeeds Together awards

Citi

Pune, MH, India

Software Development Intern

May, 2019 - Jul, 2019

- Migrated a caching component from legacy enterprise software to an open-source software to automate caching of trade details
- Leveraged **Reactive** programming using **Java**, **Spring** and **RxJava** to replace the existing automated pipeline in TIBCO BW
- Utilized multi-threading to optimize the performance and achieved a runtime performance improvement by a factor of **1.5**

KEY PROJECTS

Elevation Navigation System

Frontend | Backend

- Built a navigation system using **React** and **JavaScript** to suggest the path of minimum elevation gain between given locations
- Implemented Dijkstra's and A* algorithms to find the path within a user-specified range of the distance of the shortest path

Student Cafeteria application

Frontend | Backend

- Designed an Android application using **React Native**, **Django** and **Expo** with user and manager roles for cafeteria management
- Framed API endpoints to facilitate QR based check-in, schedule sharing, feedback as well as wastage analysis and prediction

Sentiment Analysis Platform

Repository

- Created a web application using **Angular**, **HTML**, **CSS** and **TypeScript** for text and audio based sentiment analysis
- Analyzed text and audio to categorize them into 28 emotions using **Python** based Wav2vec2 and roberta-base-go_emotions models

Stock Trading System

- Developed a 3-tier stock trading server using **Python** with replication, leader election and graceful failure handling
- Implemented LRU caching at the top level that resulted in a **20% decrease** in latency and handled leader failure through re-election

TECHNICAL SKILLS

Languages - HTML, CSS, JavaScript, TypeScript, Python, Java, SQL, C++, C

Tools/Technologies - Git, Jenkins, AWS, Gradle, JUnit, Pytest, Swagger, Postman, Docker, Maven

Frameworks/Libraries - Angular, React, Spring, React Native, Django, Bootstrap, Tailwind CSS, single-spa