

# Pradeep Diguvidi Narayanappa

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Education

## San Jose State University

*Master of Science in Computer Engineering*

**Coursework:** Web UI Design, Operating Systems, Computer Architecture, Data Mining, Software Quality Assurance, Algorithms and Data Structures, System Software, Software Security Techniques.

San Jose, CA

Aug. 2023 – Dec. 2025

## Experience

### Tata Consultancy Services (TCS)

Software Engineer

Bengaluru, India

Sep. 2021 – Jun. 2023

- Developed a full-stack e-commerce platform using **React.js** and **Spring Boot**, driving a **30% increase** in online sales and generating **\$2.5M+ additional revenue** through enhanced virtual shopping experience.
- Engineered high-performance backend using **Java**, **Spring MVC**, and **MySQL**, resulting in **30% faster** database operations and **\$500K cost savings** through improved data management efficiency.
- Mastered test-driven development (TDD) with comprehensive **RESTful API** architecture, achieving **95% test coverage** and reducing production bugs by **90%**, saving **\$200K annually** in maintenance costs.
- Led development of healthcare scheduling platform using **Java**, **Angular**, and **Spring Boot**, resulting in a **25% improvement** in appointment efficiency and **\$1.2M revenue increase**.
- Created and deployed **Redis caching strategies**, reducing database load by **50%** and improving application response times by **35%**, resulting in **\$300K infrastructure cost savings**.

Systems Engineer

Aug. 2019 – Sep. 2021

- Architected secure healthcare application using **Spring Cloud Dataflow**, **Java**, and **MySQL**, implementing **HIPAA-compliant** encryption protocols, contributing to **\$3.5M project revenue**.
- Optimized and restructured **SQL database schema**, improving query performance by **40%** while maintaining strict data security standards, reducing operational costs by **\$400K annually**.
- Executed **database migration scripts** and **stored procedures** for **PostgreSQL** and **MySQL**, ensuring zero-downtime deployments and preventing **\$1M+ potential revenue loss**.
- Developed **ETL pipelines** using **Apache Kafka** and **Spring Batch**, processing **1M+ records daily** with **99.9% accuracy**, enabling **\$2M+ data-driven revenue opportunities**.
- Managed **NoSQL databases** including **MongoDB** and **DynamoDB**, optimizing data models to support high-throughput applications and reducing infrastructure costs by **\$250K annually**.

## Projects

### Edu-Genius | MERN Stack, AI, GPT-4o-mini | GitHub

Jan. 2025 – Dec 2025

- Full-stack AI-powered educational platform built with **MERN stack**. Features intelligent tutoring via **LLM integration**, user management with **JWT authentication**, and persistent chat system with **MongoDB**. Includes rate limiting, **CORS protection**, and responsive **React** frontend with **Material-UI**.

### Traffic Accident Prediction System | Python, LLM, Data Mining

Aug. 2024 – Dec. 2024

- Applied ML models to analyze urban collision patterns, achieving an AUC-ROC of **0.9939** and accuracy of **96.83%**.

### Android Malware Detection | Python, LLM, Cybersecurity

Aug. 2024 – Dec. 2024

- ML-based malware detection system with **81% accuracy** using behavioral analysis and Random Forests.

## Technical Skills

**Languages:** Java, C++, C, Python, JavaScript, HTML/CSS, Shell Scripting, TypeScript, SQL

**Front-End:** Angular.js, Angular, Bootstrap, jQuery, AJAX, React.js, Node.js, JSON, Material-UI

**Back-End:** Flask, FastAPI, Django, Spring Boot, Spring MVC, Ruby on Rails

**Databases:** AWS DynamoDB, MySQL, MongoDB, Google BigQuery, PostgreSQL, Redis

**Tools:** Git, Visual Studio, PyCharm, IntelliJ, Eclipse, Docker, Kubernetes, Jenkins, Linux

**Libraries:** pandas, NumPy, Matplotlib

## Achievements

- Received **"Innovation Excellence Award"** for developing a solution that reduced processing time by **30%**.
- Awarded **"Best Performance Award"** for exceeding performance targets by **150%** over two consecutive quarters.
- Recognized with **"Outstanding Achievement in Automation"** award for designing a system that improved efficiency by **40%**.