Yeshwanth Balaji

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EDUCATION

- **Northeastern University**   *Boston, USA | Expected May 2026*
  Master of Science in Software Engineering Systems

- **Vellore Institute of Technology**   *Chennai, India | July 2020 - August 2024*
  Bachelor of Technology in Computer Science and Engineering

TECHNICAL SKILLS

- **Programming Languages: Java**, **C++**, **Python**, JavaScript, **TypeScript**, HCL (Terraform)
- **Server-Side & Web: RESTful APIs**, Node.js, Express.js, Flask, React, HTML, CSS
- **Cloud & DevOps: AWS** (EC2, S3, RDS, CloudWatch), **GCP**, **Docker**/**Containerization**, **CI/CD Pipelines**, **GitHub Actions**, **Git** & Version Control Workflows
- **Testing & Debugging: JUnit**, **Pytest**, Postman, Problem Solving, CI/CD Test Integration
- **Databases: MySQL**, **PostgreSQL**, MongoDB, **JDBC**
- **Frameworks & Libraries:** JavaFX, Pandas, NumPy, scikit-learn, XChart

EXPERIENCE

- **SmartInternz**   *Chennai, India | May 2023 - July 2023*
  Intern
  - Engineered and deployed a **Python**-based **REST API** (**Flask**) for a fuel consumption prediction service, handling real-time **server-side** data processing and predictions.
  - Implemented a data processing pipeline using **Python** (Pandas, NumPy) to clean, pre-process, and analyze 388 vehicle records with 12 operational parameters.
  - Developed and trained a machine learning model (scikit-learn) to predict fuel consumption, achieving 86.5% accuracy to optimize fleet routes and reduce operational expenses.

PROJECTS

- **Cloud-Native Health Monitoring Web Application**   *August 2025*
  - Ensured high service reliability for users by developing a scalable **server-side** health check **REST API** using **Node.js** and **MySQL** for real-time system uptime tracking.
  - Architected **AWS** cloud infrastructure using **Terraform** (IaC) with EC2 Auto Scaling Groups, RDS **MySQL**, and S3 storage with KMS encryption.
  - Implemented **CI/CD pipelines** with **GitHub Actions** for automated **unit testing** and zero-dintime deployments, achieving 99.9% uptime SLA.

- **FinAltica (Object-Oriented Financial Manager)**   *August 2025*
  - Built an **object-oriented** financial manager in **Java** to provide users with optimized data retrieval, implementing custom **data structures** (BST, Stack ADT).
  - Simplified user financial tracking by engineering **MySQL JDBC** integration with automated balance calculations and full CRUD operations.
  - Implemented **unit testing** (**JUnit**) to validate **data structure** logic and database transaction integrity, adhering to test-driven development principles.

- **RoomateFinder (Java OOP Project)**   *December 2024*
  - Designed a user-centric **Java** roommate matching application, enabling users to find compatible roommates via a dynamic search/filtering system.
  - Engineered a modular MVC architecture using **object-oriented programming** to support **dynamic property listings** and a scalable, reusable codebase.
  - Secured user accounts by implementing **authentication** (password hashing, OTP) and integrated real-time **MySQL JDBC** database queries.

CERTIFICATIONS & PUBLICATIONS

[1] **AWS Certified Cloud Practitioner**

[2] Sujith M, **Yeshwanth B**, Akash Raj ST, et al. (2L023). **Optical Character Recognition and Analysis of Tamil Characters**. *International Journal of Microsystems and IoT*, Vol. 1, Issue 7, pp. 460-468.