

BHASKAR RONGALI

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🌐 bhaskar9980

👤 Bhaskar-R

🌐 Bhaskar's Portfolio

EXPERIENCE

Platform Science (Trimble Mobility)

Feb 2025 - Current

Software Engineer II

Chennai

- Working on **FleetHours NextGen**, a microservices-based payroll engine for the European logistics sector, automating complex salary pre-calculations and ensuring regulatory compliance across 9 nations. The system aggregates work hours, absences, and allowances through a scalable backend architecture.
- Developing a **rule-based salary calculation engine**, delivering 12 calculation rules including shift type classification, daily/weekly aggregations, stopover allowances and multi-day trip scenarios.
- Extended **master data microservices** with location-based employee assignments, vehicle management REST APIs for board computer integration, and activity type enhancements, enabling seamless data flow between frontend modules and backend services.
- Resolved **critical bugs** in RSQL to LINQ query conversion affecting MongoDB ObjectId operations, standardised error response patterns across 6+ microservices, and increased test coverage for activity processing modules.

Software Engineer

Jun 2023 - Feb 2025

- Built **2 complete microservices from scratch**: (1) Manual Input Time Service - REST API enabling payroll corrections and manual time entries with validation and audit trails, (2) Activity Import Service - automated ETL pipeline with scheduled jobs ingesting driver activities from board computer systems.
- Optimised activity import performance to manage **enterprise-scale data volumes** by implementing bulk processing strategies and database optimisations, enabling the system to handle thousands of driver activity records daily for large fleet operators.
- Delivered **145+ contributions** including activity splitting/merging APIs with distance tracking, automated place assignment, vehicle management endpoints for board computer integration, Swagger documentation, comprehensive test coverage, service reliability improvements, and dependency management across 10+ microservices repositories.

EDUCATION

Indian Institute of Information Technology, Kancheepuram

Aug 2018 – May 2023

Bachelor and Master of Technology (Dual Degree) in Computer Science and Engineering

CGPA: 8.75

PROJECTS

BlockPay | [🔗 Source Code](#) | [📄 Paper](#)

Nov 2022 – May 2023

- Built a **contactless payment system** using **ESP32** and **RC522 RFID** with bidirectional blockchain technology and novel **Blake hashing** consensus mechanism, achieving **40% faster** transaction processing at up to **180 transactions/min**.
- Enhanced security with **Committee Member Auction (CMA)** protocol, achieving **98% success rate** in preventing double-spending, long-range, and eclipse attacks.
- Published research paper in **IEEE** presenting the system architecture, consensus mechanism, and security protocols.

Guardian | [🔗 Source Code](#)

Jan 2021 – May 2021

- Developed a **fully automated hydroponics system** using **ESP32** and **Arduino Nano** with fuzzy logic pH control for nutrient film technique cultivation.
- Achieved **95% water savings**, **25% faster** plant growth, and **30% higher yield** compared to conventional farming.
- Integrated **remote monitoring and control** capabilities enabling off-site environmental adjustments through cloud-based interface.

TECHNICAL SKILLS

Programming Languages: C#, C++, C, Python

Technologies & Frameworks: .NET, MongoDB, MySQL, Microservices, REST APIs, Angular

Development Tools: Visual Studio, Git, Docker, VSCode, GitHub Actions, Linux, Windows

Concepts: Object-Oriented Programming (OOP), SOLID Principles, Design Patterns, Unit Testing, Data Structures & Algorithms, Agile Methodologies

ACHIEVEMENTS

- Published research paper on **blockchain-based contactless payment system** in **IEEE**.
- Secured global rank of **1658** in **Google KickStart 2022** Round D among thousands of international participants.
- Achieved **All India Rank 177** out of **30,000 students** in CodeKaze'21 Final Round by **Coding Ninjas**.
- Scored **All India Rank 3708** (GATE 2021) and **3805** (GATE 2022) in Computer Science from over **100,000+ candidates**.
- Received **Best Project Award** from **IIITDM Kancheepuram** for developing an automated hydroponics system.