# THARINDU BALASOORIYA

## SOFTWARE ENGINEER

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tharindu-balasooriya-portfolio/

## SUMMARY

Software Engineering graduate with hands-on experience in backend API development, full-stack systems, and AI-driven applications. Completed a 6-month internship at Sri Lanka Telecom, contributing to production-level systems using FastAPI and MERN stack. Passionate about working in startup environments, building scalable software solutions, and applying data-driven and AI techniques to real-world problems.

## WORK EXPERIENCE

**Intern / Trainee Full-Stack Developer**
**Sri Lanka Telecom (SLT – Head Office) │ Dec 2024 – Jun 2025**

**Debt Recovery System (DebtX / DRS)**
- Designed and implemented core business logic including case distribution, amendments, and incident creation workflows.
- Built a data mapping pipeline from SQL Data Lake to MongoDB for operational use.
- Developed and documented REST APIs using FastAPI, consumed across internal SLT systems.
- Implemented input validation, error handling, and unit testing to improve system reliability.
- Used Swagger, Postman, Git for API testing, documentation, and version control.
- Received a Letter of Appreciation for strong technical and professional performance.

Tech: Python, FastAPI, SQL, MongoDB, REST APIs, Swagger, Postman, Git

**Incident Management System**
- Developed a production-ready MERN stack application for ticket lifecycle management.
- Implemented dashboards, role-based access control, and automated workflows.
- Assisted with deployment processes and version control using GitHub and Bitbucket.

Tech: MongoDB, Express, React, Node.js, REST APIs

## PROJECTS

**Ceylon Trails – Intelligent Itinerary Planner (Final Year Project)**
**SLTC │ 2024 – 2025**
- Flutter mobile application for group trip planning with Provider/Riverpod state management and responsive UI.
- Trained machine learning models (scikit-learn) on custom datasets to rank activities and time slots under constraints (mobility, time windows, heat, terrain).
- Exposed ML predictions through a REST API for real-time itinerary optimization.
- Performed feature engineering (cyclical time features, group statistics) and evaluated models using precision, recall, and F1-score.

Tech: Flutter, Python, scikit-learn, REST APIs

**AI-Based Nutrient Detection in Paddy Crops (Group Project, Ongoing)**
**SLTC | 2025 Onwards**

- AI-driven precision agriculture system using field-level crop images.
- Applied computer vision and machine learning to detect Nitrogen, Phosphorus, and Potassium (NPK) deficiencies and classify paddy plants.
- Generated fertilizer recommendations to improve crop yield and reduce fertilizer overuse through data-driven insights.

Tech: Python, OpenCV, scikit-learn,TensorFlow,Pandas

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## TECHNICAL SKILLS

- Languages: Python, Dart, Java, C, JavaScript, HTML, CSS
- Frameworks & Libraries: Flutter, React, Node.js (basic), FastAPI, Flask, Django
- AI / Data: Pandas, NumPy, scikit-learn, OpenCV
- Databases: MySQL, MongoDB
- Tools & Platforms: Git, GitHub, Docker, Postman

Concepts: REST APIs, OOP, Unit Testing, ML Model Training & Evaluation, CI/CD (basic)

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## EDUCATION

**BSc (Hons) in Software Engineering**
**SLTC Research University | 2021 – 2025**

- GPA: 3.4 / 4.0
- Second Class Upper Division

**G.C.E. Advanced Level**

- Mathematics, Physics, ICT (2019)
- Science for Technology, Engineering Technology, ICT (2020 – Private Candidate)

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## LEADERSHIP & ACTIVITIES

- GetSync Club – SLTC: Coordination Division ; managed communications, scheduling, and logistics for events.
- Program Unit (Exola Project): Assisted in planning and conducting sessions; prepared materials and tracked participation.
- Arduino & Embedded Systems: Built RC cars, drones, and DIY electronics projects involving programming and hardware integration.
- Music: Talented musician with multiple school-level certificates and performance experience.

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## REFERENCES

**Dr. Sampath Deegalla**
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