Sujahath Siddeek

Software Engineer, Backend & AI

Curriculum vitae
Europass format
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ABOUT ME

Backend and AI engineer with two years of production experience. I build Python and FastAPI services, RAG systems and AI agents, and the software that connects hardware to the cloud: edge controllers, MQTT and Modbus RTU telemetry, time-series storage and dashboards. I measure before I claim, and I check my systems against real data and real hardware before I call them done. Open to remote roles, the UAE and GCC, and relocation to Europe.

WORK EXPERIENCE

03/2025 – Present
Remote, for the HQ in Ploiești, Romania

Software Engineer, Backend & DevOps

Blue Brand – Advanced R&D and IP Institute (Sri Lanka branch)

I build and run the software behind a live solar and battery energy platform, from Raspberry Pi edge controllers to cloud APIs and databases.

Battery polling failures 80% → 0% | Controller start-up 5–6 min → 15–30 s | ARM64 + AMD64 releases

- Built production Python and FastAPI services that process real-time telemetry and control workflows, with REST and WebSocket APIs for operators.
- Designed the MQTT (EMQX) and REST links between edge controllers and the cloud, storing versioned telemetry in PostgreSQL and TimescaleDB.
- Added failover so device or network faults never reach control decisions: health checks, retries, fallback paths, last-known-good values and plausibility checks, with safety-critical control kept local during cloud outages.
- Traced production incidents through logs, protocol traces and SQL; the fixes produced the polling and start-up gains above.
- Ship through Docker, GitLab CI/CD, Harbor and Ansible, with multi-architecture releases, staged verification and rollback.
- Built the operators' control-panel dashboard in Vue 3, TypeScript and Tailwind CSS; run the lab servers and Linux deployments.

Stack: Python, FastAPI, PostgreSQL, TimescaleDB, MQTT, Modbus RTU, CAN, ESP32, Raspberry Pi 5, Docker, GitLab CI, Ansible, Vue 3, TypeScript

07/2024 – 02/2025
Remote, Sri Lanka

Software Engineer Intern, then Associate Software Engineer

CodeScale, Colombo

WheresNow, a real-time location platform with a mobile app for tracking and monitoring people.

- Built the mobile interface in React Native and scalable backend APIs in Node.js and Express.
- Wrote Android native code for geofencing (real-time location tracking) and in-app purchases.
- Integrated Firebase for authentication, real-time database sync and push notifications.
- Owned environments, CI/CD pipelines and AWS infrastructure, plus monitoring and live incidents, in an Agile team.

Stack: Node.js, Express, NestJS, React Native, Android, Firebase, Next.js, PostgreSQL, AWS, Git

01/2023 – 06/2023
Western Province, Sri Lanka

Trainee Engineer

Lanka Hydraulic Institute

Six-month on-site engineering traineeship; used Python for data analysis on the institute's engineering work.

04/2022 – 01/2023
Moratuwa, Sri Lanka

Editor in Chief (volunteer)

Majlis-Ul-Islam, University of Moratuwa

Led the student society's publications and social media channels.

2018 – Present
Online and in person

Teaching

Online and in-person classes

Where I learned to explain technical work to people outside it.

EDUCATION AND TRAINING

Graduated 07/2024
Moratuwa, Sri Lanka

B.Sc. Engineering (Hons) in Earth Resources Engineering

University of Moratuwa

Specialised in Remote Sensing and GIS.

2024
Sri Lanka

Diploma in Comprehensive Java Development

Institute of Software Engineering

PROJECTS

GridTwin-HIL

AI agents attack a real STM32 + Raspberry Pi 5 energy controller, prove each failure with a hardware timer, then fix it.

4 safety bugs fixed · 123.4 ms worst-case trip vs 500 ms limit

AeroIntel

RAG for aircraft maintenance that answers only from the manual and refuses in code otherwise. FastAPI, pgvector.

recall@5 1.000 · 17/17 must-not-answer questions caught

Energy Bill Extractor

Bill PDF or photo in, checked JSON out. A vision model reads; plain code does the maths.

97.5% field accuracy on damaged photos · $0.013 per bill

evalX

pytest for AI behaviour, on PyPI: golden datasets, code checks, an LLM judge and a per-case CI gate.

296 tests green in CI · 67 cases graded on AeroIntel

Team Ops MCP

MCP server giving AI assistants incident search and GitHub tools behind auth, roles and an audit log.

3 roles checked inside every tool · 28 tests + end-to-end smoke test

A public IP behind CGNAT

WireGuard tunnel to an Oracle Cloud VM serving HTTPS from a home server behind carrier-grade NAT.

Rs 0 a month instead of ~Rs 18,400 for a static IP

DIGITAL SKILLS

Languages	Python, TypeScript, Java, C/C++, Dart, SQL
AI engineering	Multi-agent systems, RAG, LLM evaluation, vision LLMs, MCP, Ollama; testing with pytest, CI gates and hardware in the loop
Backend	FastAPI, Pydantic, SQLAlchemy, Node.js, Express, NestJS, MQTT, REST and WebSocket APIs, RBAC
Data	PostgreSQL, pgvector, TimescaleDB, Redis, DuckDB
Infrastructure	Docker, GitHub Actions, GitLab CI, Ansible, Harbor, AWS, Oracle Cloud, Linux, WireGuard, iptables, Caddy
Hardware, IoT	Raspberry Pi 5, STM32, ESP32, Modbus RTU (RS485), CAN
Frontend, mobile	Vue 3, React, Next.js, React Native, Flutter, Tailwind CSS

LANGUAGE SKILLS

Mother tongue: Tamil

OTHER LANGUAGES	UNDERSTANDING		SPEAKING		WRITING
	LISTENING	READING	SPOKEN PRODUCTION	SPOKEN INTERACTION	
English	C1	C1	C1	C1	C1
Sinhala	B1	B1	B1	B1	B1

Levels: A1 and A2: basic user; B1 and B2: independent user; C1 and C2: proficient user (Common European Framework of Reference for Languages).

CERTIFICATES

- **AI Fundamentals**, Google, 2026
- **Supervised Machine Learning: Regression and Classification**, DeepLearning.AI, 2024
- **Programming with JavaScript**, Meta, 2022
- **Introduction to Front-End Development**, Meta, 2022
- **Python for Everybody Specialization**, University of Michigan, 2022
- **Google IT Support Professional Certificate**, Google, 2021