

Paras

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Software engineer building concurrent systems, backend services, and production AI/ML systems across C++, Python, Java, and Kotlin. Shipped **thread-safe MQTT networking** to an Android app with **1M+ install** and built **ML-driven Wi-Fi RTT systems** at Samsung, reducing ranging error by **31%**.

PROFESSIONAL EXPERIENCE

Software Developer (Open Source Contributor)

May 2026 – Aug 2026

Google Summer of Code 2026, International Catrobat Association

Remote

- Shipped the **MQTT networking layer** for **Pocket Code**, an open-source Android app with **1M+ Google Play installs**, adding blocks for **multiplayer games and IoT/Home Assistant** integrations (PRs).
- Built a **thread-safe MQTT message pipeline** decoupling the network thread from the render thread via bounded queues, eliminating **data races and UI freezes** traced to Paho's unbounded broker wait.
- Designed the layer for **broker/emulator-independent testing** with interfaces, factories and Koin DI; wrote **252 tests**, uncovering **2 production crashes** the prior suite missed.

Software Development Engineer Intern

Jun 2026 – Aug 2026

NatWest Group [certificate]

Bengaluru, India

- Built an **AI agent** that processed bank DLR logs and ranked data products across **15 business domains**, cutting **manual discovery time by 95%** and auto-generating go-to-market summaries.
- Owned the **Context Inference Engine** for DORA, a multi-agent data platform: 2-hop lineage-graph traversal, Leiden community detection and GPT-4o labeling behind grounding validation and **deterministic fallbacks**.
- Benchmarked **Small Language Models (SLMs)** under **Federated Learning** across Customer and Credit Risk domains, holding accuracy **within 3–4% of centralized training** with data kept in domain boundaries.

Research & Development Intern

Jan 2026 – Aug 2026

Samsung R&D Institute India

Bengaluru, India

- Built a Kotlin Android data-collection system for **Samsung PRISM** (Jetpack Compose, Wi-Fi Aware, IEEE 802.11mc) on a **publish–subscribe architecture**, collecting **600+ labelled measurements**.
- Built a **Wi-Fi RTT indoor-localization simulator** (Kotlin, embedded Python via Chaquopy, **FastAPI backend**) modelling multipath and interference to predict **device and AP position**.
- Benchmarked **11 regression models**; shipped a two-stage **ExtraTrees + GradientBoosting** pipeline reaching **MAE 0.443 m, 87% within 1 m, a 31% error reduction** over the best baseline.

Software Engineering Intern

Oct 2025 – Feb 2026

Carver Agents [certificate]

Bengaluru, India

- Built production AI workflows converting regulatory annotations (RSS feeds) into **automated 3–5 minute podcasts and social posts**, processing **10–20+ items per run**.
- Integrated OpenAI, TTS, AWS S3, Transistor.fm and Slack into the delivery pipeline, reducing **manual effort by 98%+**; published at carveragents.ai/podcasts.

PROJECTS

TestPilot AI | TypeScript, LangGraph, Playwright, Qdrant

[GitHub]

- Built an **autonomous agent as a VS Code extension** in **5,000+ lines of TypeScript**, using an **8-node LangGraph pipeline** and Playwright to test web apps without predefined scripts.
- Added **Qdrant-based persistent memory** so learned behaviour carries across runs, with **3 runtime invariants** (failed network calls, console errors, off-site navigation) gating every step.

Re-Voice | Python, WebSockets, Docker, Prometheus, Grafana

[GitHub]

- Built the **real-time voice pipeline** over **WebSockets** (Twilio media streams, Silero VAD, **Sarvam STT/TTS**, streaming OpenAI LLM) with **barge-in handling** to cancel queued speech.
- Deployed with **Docker Compose** across application, AI and observability tiers; instrumented with Prometheus, Loki, Tempo, OpenTelemetry and Grafana across **4 workers**.

EDUCATION

B.M.S. College of Engineering

Bengaluru, India

B.E. Computer Science and Business Systems; CGPA: 9.27 / 10.0

Aug 2023 – May 2027

- **Relevant coursework:** Data Structures and Algorithms, Operating Systems, Computer Networks, Database Management Systems, Machine Learning, Cryptography and Network Security, Software Engineering.

TECHNICAL SKILLS

- **Languages:** C++, Python, Java, Kotlin, C, JavaScript, TypeScript, SQL, Bash
- **Backend & Systems:** REST APIs, FastAPI, Node.js, WebSockets, Microservices, Multithreading, Concurrency, System Design, PostgreSQL, MongoDB, Redis, JWT/OAuth
- **Frontend & Mobile:** React.js, Next.js, Jetpack Compose, Android SDK, Retrofit, Gradle, Tailwind CSS, HTML5/CSS, Responsive UI
- **Cloud & Infrastructure:** AWS, Docker, Linux, Git, GitHub Actions, CI/CD, Prometheus, Grafana, OpenTelemetry
- **AI/ML, Testing & Practices:** Scikit-learn, XGBoost, PyTorch, TensorFlow, Pandas, NumPy, Feature Engineering, Cross-Validation, RAG, Vector Databases, Embeddings, Semantic Search, Test-Driven Development (TDD), Agile/Scrum

CERTIFICATIONS

- **Nutanix Certified Associate (NCA) 6**, Nutanix, Apr 2026 (valid to Apr 2029) [[certificate](#)]
- **Google Cloud Engineering Certificate**, Google Cloud Career Launchpad, Mar 2026 [[certificate](#)]
- **Postman API Fundamentals Student Expert**, Postman, Jan 2026 [[certificate](#)]

ACHIEVEMENTS

- **Smart India Hackathon 2025 Finalist**, Ministry of Education, Government of India: **top 5 of 200+ teams** nationwide for a credit-risk model with income verification for rural populations (NBCFDC).
- **LeetCode Knight (1890): 1000+** data structures and algorithms problems, **300+ day streak**. CodeForces **Pupil (1243)**.
- **Open source: 14 merged pull requests** across **8 external repositories** beyond GSoC, spanning Android, WebSockets, algorithms and test tooling.
- **Department Coordinator, PhaseShift** (BMSCE National-level Techfest): coordinated and hosted **6+ events**; delivered an open-source workshop to **80+ participants**.