

Agamy Samuel

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EXPERIENCE

- Software Technology Park of India (STPI)** Prayagraj, UP
Software Development Engineer I Jan 2025 – Present
 - Architected production-grade cloud infrastructure from scratch, scaling to support a **25,000-member** community with consistent uptime and seamless horizontal elasticity under sustained growth.
 - Instrumented and optimized system performance serving **500+ daily active users** and **7,500+ monthly active users**, proactively identifying and resolving bottlenecks before they impacted user experience.
 - Architected and shipped a **zero-downtime CI/CD pipeline** with automated deployment gates, significantly accelerating release velocity while enforcing production reliability invariants at every stage.
 - Deployed a horizontally scalable load-balancing layer supporting global traffic distribution, improving fault tolerance and reducing latency for international end-users under peak load.
- International Institute of Information Technology Hyderabad (IIIT-H)** Remote
Software Engineering Contractor Apr 2026 – Jul 2026
 - Engineered a **semi-automated metadata extraction pipeline** for public-domain Indic language books, processing heterogeneous inputs (PDFs, scanned documents) to power large-scale digital archival at IIIT-H.
 - Designed structured data cleaning and reconciliation workflows using **OpenRefine**, enabling high-fidelity **Wikibase-compatible** metadata construction across thousands of catalogue records.
- MNNIT Allahabad** Prayagraj, UP
Cryptography & Network Security Researcher, under Prof. Rama Shankar Yadav Dec 2024 – Feb 2025
 - Optimized side-channel attack methodology (**timing + CPU probing**) against AES implementations, achieving a **25% improvement** in key-recovery signal efficiency over baseline techniques.
 - Analysed implementation-level vulnerabilities in hardened encryption deployments and authored concrete mitigation strategies, contributing findings to publishable cryptographic security research.
- Impulsive Web** Greater Noida, UP
Software Development Engineer Intern Aug 2024 – Oct 2024
 - Engineered high-performance HRMS modules with optimised backend workflows, delivering **~300ms p99 response latency** in production under real user traffic.
 - Collaborated cross-functionally with frontend engineers on Angular state management and modular architecture, accelerating feature delivery cycles and improving long-term codebase maintainability.

PROJECTS

- Intelligent Domain Knowledge Platform (IDKP)** Report — [GitHub](#)
Production-grade AI Q&A platform fusing domain-specific **QLoRA fine-tuning** (Unsloth/PEFT) with an advanced RAG pipeline featuring HyDE, BM25, cross-encoder reranking, and RRF fusion – delivering source-cited, hallucination-resistant responses at inference time. Stack: FastAPI, PostgreSQL, Redis, Qdrant, LlamaIndex, LangChain, vLLM, OpenTelemetry.
- Bigship SDK** NPM — [GitHub](#)
Designed and published a production-ready, **fully type-safe TypeScript SDK** for the Bigship Outbound API, abstracting shipping logistics, order management, rate calculation, and real-time tracking into an ergonomic, zero-friction developer interface. Stack: TypeScript, Node.js, NPM.
- SHUATS National Talent Search Examination Platform** Website
Built a centralised, high-availability examination platform with real-time anti-cheat enforcement, UFM (Unfair Means) detection, and $\LaTeX$ -rendered mathematical equation support – improving administrative efficiency by **63%** over the prior system. Stack: Docker, Next.js, TypeScript, PostgreSQL, WebSocket, $\LaTeX$.
- Community Management Application (Open Source – WIP)** Wiki — [GitLab](#)
Developed a Wikimedia Global Community Management System enabling multi-level hierarchical event organisation with robust RBAC, deployed on **Kubernetes GKE (Toolforge)** for global production reliability. Stack: Docker, Kubernetes, Next.js, Tailwind, MySQL, Drizzle ORM, ShadcnUI.
- Plannova** Website — [GitHub](#)
Engineered a full-stack venue, vendor, and service-provider booking platform with granular **four-tier RBAC** (Customers, Vendors, Staff, Admins), Razorpay payment integration, and Google Analytics instrumentation for data-driven growth. Stack: Docker, Google Cloud, Redis, React.js, TypeScript, NoSQL, Zod.
- Event Management & Tracking System** Website — [GitHub](#)
Streamlined end-to-end event and attendee management via a **QR-based ticketing system** with automated email notifications and real-time tracking, deployed on AWS with Kubernetes-orchestrated microservices. Stack: Docker, Kubernetes, Next.js, Tailwind, MariaDB, Drizzle ORM, Resend.

TECHNICAL SKILLS

- **Languages:** C/C++, Go, Java, Python, JavaScript (ES6+), TypeScript, HTML, CSS, Tailwind, Bash
- **Frameworks:** React.js, Next.js, Angular, Node.js, Express.js, Django, Flask, GraphQL, REST APIs, WebSocket
- **Database & ORM:** PostgreSQL, MySQL, MariaDB, Oracle DB, Redis, NoSQL, Qdrant (Vector DB), Prisma, Drizzle
- **AI / ML:** RAG, QLoRA Fine-tuning, LangChain, LlamaIndex, vLLM, BM25, Cross-Encoder Reranking, HyDE
- **Cloud & DevOps:** Docker, Kubernetes, Terraform, AWS, Google Cloud, Oracle Cloud, CI/CD, Jenkins, Pub/Sub, GKE
- **Tools:** Git, OpenRefine, OpenTelemetry, Linux/Ubuntu, Toolforge

EDUCATION

- **Sam Higginbottom University of Agriculture, Technology and Sciences (SHUATS)** Prayagraj, UP
Bachelor of Technology, Computer Science & Engineering; CGPA: 7.8 2022 – 2026

CERTIFICATIONS

- **Professional Cloud Architect (PCA)** Google Cloud
Credential issued by Google Cloud. [View Certificate](#)

OLYMPIADS & COMPETITIONS

- **Kaggle Community Olympiad – Unmasking Fakes**
Secured **Rank 5** (Regional). [View Leaderboard](#)
- **ML Olympiad – Predicting Wellness**
Top-ranked competitive ML challenge participant. [View Leaderboard](#)

HONORS & ACHIEVEMENTS

- **Indic Wikimedia Hackathon, Hyderabad 2026** Jun '26
Mentor & Speaker; mentored students across diverse technical tracks.
- **Wikimedia Hackathon 2026, Milan, Italy** May '26
Invited to present project at the global Wikimedia Hackathon with a **fully funded scholarship**.
- **Indic Wikimedia Hackathon, Kochi 2025** Jul '25
Mentor & Speaker; mentored **50+ students** across diverse technical tracks in a 3-day national hackathon. [Full Report](#)
- **HackByte 3.0, IIIT Jabalpur** Apr '25
Judge & Mentor for **2,500+ participants** in a 36-hour national-level hackathon. [Full Report](#)
- **Road to Wiki Graduation, Meta (Facebook) Office, Gurgaon** Feb '25
Speaker & Mentor; team achieved **highest impact** with 14+ approved open-source contributions. [Full Report](#)
- **Indic Wikimedia Hackathon, Bhubaneswar 2024** Dec '24
Selected among **top 30 out of 500+** applicants. [Full Report](#)
- **3rd Wiki Tech Summit, IIIT Hyderabad** Oct '24
Invited attendee at the 3-day Wikimedia Technology Summit. [Full Report](#)

VOLUNTEER WORK

- **Wikimedia Foundation** Remote
Project Maintainer – Community Management Platform July 2024 – Present
- Building and maintaining an open-source platform for hosting and organising in-person and virtual community events, adopted across the global Wikimedia ecosystem.

LEADERSHIP

- **FOSS United, Prayagraj** Dec '25 – Present
Community Lead / Co-Organizer [Link](#)
- **Wikiclub Tech, SHUATS** Oct '24 – Present
Founder & Chairperson [Link](#)
- **Google Developers Group (GDG), Prayagraj** Aug '23 – Present
Core Team – Technical Lead [Link](#)
- **TensorFlow User Group (TFUG), Prayagraj** Dec '23 – Present
Core Team – Technical Lead [Link](#)