Aryan Singh Thakur

Software Engineer • Systems Programming • AI Applications

aryansingh.fullstack@gmail.com • +91-7018159930 • LinkedIn • GitHub

Summary

Backend-focused engineer with strong interests in **systems programming, networking, and AI-powered applications**. Experienced in building full-stack SaaS platforms, low-level networking systems, and retrieval-based AI tools. Comfortable working across the stack from **C-based networking systems** to production cloud deployments.

Skills

Languages: C, C++, JavaScript, TypeScript
Backend: Node.js, Express, NestJS, REST APIs, WebSockets
Frontend: React, Next.js, TailwindCSS
AI & Data: RAG Systems, BM25 Retrieval, LLM Integration, OCR (Tesseract)
Infrastructure: Linux, NGINX, AWS EC2, MySQL, MongoDB

Experience

Full-Stack Developer Intern — SvaraAI (Remote, London)   *Oct 2025 - Mar 2026*
- Built core backend services for a **B2B SaaS platform** enabling campaign management and lead workflows.
- Developed a production **email infrastructure** using Node.js for inbound processing and Azure Email Services for outbound delivery.
- Designed and implemented REST APIs and frontend features using **Node.js, NestJS, Next.js, and TailwindCSS**.
- Deployed and managed production infrastructure on **AWS EC2 with NGINX reverse proxy and MySQL databases**.
- Configured DNS records (SPF, DKIM, DMARC) and managed server deployments for reliable email delivery.

Projects

Raw HTTP/1.1 Server in C   *C, Linux, Sockets*
- Built a **high-performance HTTP/1.1 server in C** supporting persistent connections and event-driven I/O.
- Designed a concurrent architecture using **epoll (level-triggered)** for scalable networking.
- Implemented full HTTP request parsing supporting **GET, POST, headers, and static file serving**.
- Developed manual request/response handling without external libraries to understand low-level protocol behavior.
- GitHub • Binary

Portly — AI Portfolio Generator   *React, Node.js, LLaMA*
- Built an AI-powered platform that converts resumes into **personalized developer portfolio websites**.
- Implemented a PDF parsing pipeline using **pdf-parse** to extract structured resume data.
- Integrated **LLaMA-4 Maverick via OpenRouter** to infer skills, experience, and projects.
- Designed a **static site generation system** supporting multiple customizable templates.
- GitHub • Live

LexGenAI — AI Legal Document Generator   *RAG, MongoDB*
- Built a **RAG-based legal document generation system** for startups and MSMEs.
- Implemented vector-style retrieval using **MongoDB cosine similarity** for contextual generation.
- Designed a risk analysis engine that classifies clauses into **Low, Medium, High risk categories**.
- Added support for generating and exporting legal documents as PDFs.
- GitHub • Live

Krishi Setu — Voice AI for Farmers   *Twilio, Node.js*
- Built a voice-based AI system enabling farmers to access agricultural guidance via phone calls.
- Integrated **Twilio Conversation Relay** with speech models for real-time voice interaction.
- Implemented a custom **BM25 retrieval engine** for instant knowledge lookup from curated agriculture data.
- Designed an in-memory retrieval pipeline achieving **sub-millisecond query latency**.
- GitHub • Demo video

Education

ICFAI University, Himachal Pradesh   *2023 - 2027*
B.Tech in Computer Science   **CGPA: 8.93**