

# SAHILJEET SINGH KALSI

## Full Stack Developer

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Full-stack developer with production experience owning distributed, cloud-native backend systems at scale — cut CPU usage from ~99% to ~25%, reduced video processing time from 6 hours to under 30 minutes, and led a 9-service cloud migration to AWS, using CI/CD and AI-assisted development daily.

### SKILLS

**Languages:** JavaScript, TypeScript, Python, Java  
**Frontend:** React.js, Next.js, React Native, Tailwind CSS  
**Backend:** Node.js, NestJS, Express.js, REST APIs, Prisma  
**Databases:** PostgreSQL, MongoDB, Redis  
**Tools & Cloud:** Git, Docker, AWS, GCP, Firebase, CI/CD (GitHub Actions), Postman, GitHub Copilot, Claude

### EXPERIENCE

- Full Stack Developer — Newral.in** Jan 2026 – Present
- Own full-stack development for **Competishun**, a large-scale EdTech platform for JEE/NEET aspirants with 100,000+ active users
  - Reduced backend CPU usage from **~99% to ~25%** through SQL query optimization, Redis caching, and workload restructuring
  - Rebuilt the FFmpeg-based video transcoding pipeline, cutting processing time from **6 hours to under 30 minutes**
  - Optimized infrastructure footprint, reducing compute usage from **32 cores to 4 cores**
  - Led migration of **9 microservices** from GCP to AWS, improving scalability, reliability, and cost efficiency
  - Set up CI/CD pipelines (GitHub Actions) and unit/integration test suites, and used AI-assisted dev tools (GitHub Copilot, Claude) to speed up delivery while maintaining code quality
  - Building **Synapse**, a multi-tenant platform for creators and EdTech businesses to sell courses/products and engage their audience, using NestJS, TypeScript, Prisma, and React — currently onboarding pilot clients
  - Built the backend for a social media application for a US-based client, designing scalable APIs and data models with NestJS, TypeScript, Prisma, and PostgreSQL
  - Developed a scalable real-time backend (Node.js, Express, Redis, WebSockets) for a separate US-based startup client
- Junior Software Developer Intern — Newral.in** Sep 2025 – Dec 2025
- Built and maintained microservices using NestJS, TypeScript, PostgreSQL, Redis, and BullMQ
  - Handled large-scale data operations across multiple SQL and NoSQL databases
  - Resolved production issues across distributed microservices by analyzing application logs, improving system stability and reliability
- App Developer Intern — Tech Access Learning Pvt Ltd** Jul 2024 – Sep 2024
- Built a local MP3 player in Kotlin (Android Studio) with playlist management and media controls
  - Developed a cross-platform movie bookmarking app in React Native with persistent storage
  - Strengthened debugging and deployment skills, delivering functional mobile apps under tight deadlines

### PROJECTS

- Make Video Small — AV1 Video Compression Desktop App**  
[makevideosmall.vercel.app/](https://makevideosmall.vercel.app/)
- Built a desktop app with Electron, React, and TypeScript, wrapping a Python-based FFmpeg + Av1an pipeline to achieve 70–90% video size reduction via AV1 encoding
  - Implemented batch processing with live CPU/GPU/RAM resource monitoring
  - Designed secure IPC and async processing to keep the UI responsive during heavy workloads
- CipherSprint — Real-Time Typing Performance Platform**  
[ciphersprint.vercel.app/](https://ciphersprint.vercel.app/)
- Built a real-time typing platform with React.js and Firebase featuring live state synchronization across concurrent users
  - Implemented live WPM tracking, accuracy metrics, and performance analytics with low-latency updates
  - Designed a responsive UI with theme customization and dynamic feedback
- ImageAI — AI-Powered Image Editing Platform**  
[imageai-bay.vercel.app/](https://imageai-bay.vercel.app/)
- Built an AI-powered image editing platform with Next.js 14, TypeScript, and Tailwind CSS
  - Integrated Cloudinary AI for image generation, background removal, and object recoloring

### EDUCATION

- Don Bosco Institute of Technology, New Delhi** Aug 2022 – Jul 2025  
*Bachelor of Computer Application — CGPA 9.16 / 10*
- Amity University Online, Noida** Aug 2025 – Ongoing  
*Master of Computer Application*

### ACHIEVEMENTS & LEADERSHIP

- Coding Head, Unite Creatives** (4,000+ members) — organized coding initiatives and led a hackathon with 100+ participants
- Active member, Rotaract Club** — led community service campaigns, including blood and stem cell donation drives