Shounak Ghosh

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Experience

SDE Intern, Heizen – SF, USA   July 2025 – Present
- Worked on Jetfuel, the AI-assisted website creator and manager for construction companies
  - Improved website UX and upgraded the continuous AI feedback loop for progressively enhancing the generated websites
  - Integrated Google Ads and Umami Analytics APIs to ship monetizable websites directly from the app
  - Worked on an AI-based website editor using Sandpack's API; with automatic error fixing
- Shipped PsyFi to production: a financial expenses and investments tracker with an emphasis on human psychology
  - Built and took ownership of the majority of the web app's features; provisioned and deployed production and development environments on AWS with an automated CI/CD pipeline and unit tests
  - Authored complex backend flows pertaining to the financial domain (XIRR, capital gains, stock volatility, etc.); integrated the Plaid API for multiple tenants
  - Optimized DB calls by upto 92%; improved Next.js page load speeds by making use of RSCs; SEO optimization to improve discoverability; worked on the technical aspects of SOC2 compliance

Backend Intern, Aarish Technologies Inc. – QC, Canada   October 2024 – March 2025
- Architected high-performance H.264 video streaming and archival pipeline for military mesh network application, optimizing latency and bandwidth using FastAPI, ffmpeg, and GStreamer
- Designed fault-tolerant two-way communication protocol for mesh networks by developing custom UDP packet encoding for ESP32 nodes in unstable network conditions
- Devised a setup for audio classification by creating a full-stack web application with React and FastAPI, allowing integration with TensorFlow; the solution is currently used by clients from the Indian military

Projects

SophistAI – Your Personal Syllabus Navigator   sophistai.app
- Conceptualized and developed an AI-powered mind-map generator that automatically sorts user-submitted syllabi into hierarchical study pathways; this reduced student research time by 6 hours per week
- Crafted an intuitive and reponsive mind map; backed by a robust backend that queries a hosted PostgreSQL database
- Launched as a student-focused SaaS: 10k+ site views in the first week (50% bounce rate), 700+ registered users from various colleges in India (with some from USA and Japan), plus end-to-end payments, SEO optimization, and real-time analytics

pChat - Decentralized Messaging Platform   pchat-chi.vercel.app
- Developed a secure peer-to-peer messaging service that facilitated instant communication for over 100 users without data storage or central authority, ensuring robust privacy and user autonomy from external surveillance
- Built real-time group voice chat using Trystero, enabling seamless audio communication among unlimited peers
- Created intuitive UI designs leveraging Svelte-kit and SkeletonUI, ensuring users experienced uninterrupted access to essential features in the peer-to-peer messaging application

Achievements

- Secured **1st place** (1/200+ teams) at the Diversion 2k25 Hackathon by leading development and live demonstration of SophistAI's AI-driven syllabus mapping and content generation platform
- Awarded **1st runner-up** out of 150+ teams at the Statuscode1 Hackathon for architecting NF-Tree
- Named **Finalist** in the Smart India Hackathon 2023, collaborating in a 6-member team to design and deploy a progressive web app for citizen water-issue reporting, recognized by the Ministry of Jal Shakti, Government of India
- Secured a **top 1% national ranking** in Mathematics in the AISSCE and AISSE, showcasing capability to deconstruct and solve complex problems

Education

Kalyani Government Engineering College, Nadia – BTech in Computer Science and Engineering   November 2026

Skills

Languages: TypeScript, Golang, Python
Frontend: React, Next.js, Svelte, Svelte-kit, TailwindCSS
Backend: Node.js, NestJS, Bun, Hono.js, Express, DrizzleORM
Infrastructure: AWS, PostgreSQL, SQLite, Cloudflare Workers, Docker