

Sanat Gupta

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EDUCATION

University of Michigan, Ann Arbor

Expected Graduation: May 2027

B.S.E. Computer Science Engineering | Mathematics Minor

Ann Arbor, MI

- Coursework: Software Engineering, Machine Learning, Bayesian Methods in ML, AI/ML in XR/VR, Data Structures and Algorithms, Probability and Statistics, Foundations of Computer Science, Linear Algebra

EXPERIENCE

Software Engineering Intern

May 2025 – September 2025

Youphoria

- Created apps and internal tools using AI technology (Claude) for a production platform with 1000+ users, writing production-quality code in Python and TypeScript that improved user experience and solved broadly described challenges with appropriate solutions.
- Created documentation for and tested new software applications, evaluating new application concepts through rapid prototyping and iterating based on feedback from beta testers and stakeholders.
- Built scalable, fault-tolerant backend services and data systems using Python, SQL, and REST APIs, working in a fast-paced startup environment to produce high-quality software under tight deadlines.
- Improved presenting and communication abilities by delivering findings to leadership, and improved coding abilities by being introduced to new tools and programming languages throughout the internship.

Engineering Project Intern

Jan 2024 – Apr 2024

Eli Lilly and Company

- Created appropriate solutions from broadly described manufacturing optimization challenges at 85.18M units annually, working in a fast-paced environment within a \$30.7M budget.
- Presented findings to Eli Lilly senior leadership at MSU Design Day, demonstrating strong presenting and communication abilities both oral and written.

PROJECTS

ProffInsight | proffinsight-three.vercel.app

- Built a Bayesian ML platform serving 29 universities (3,000+ professors, 100K+ reviews), implementing Beta-Binomial posteriors, Naive Bayes sentiment classification, and Gaussian Process Regression from scratch in pure Python with no external ML libraries.
- Designed a semester optimizer, student-professor matching engine, and multi-category sentiment analysis across five teaching dimensions, deployed with a React 18/Vite/Tailwind frontend and FastAPI backend with automated CI/CD via GitHub Actions.
- Built a Python scraper using GraphQL API with ThreadPoolExecutor for parallel fetching and exponential backoff, FastAPI backend with LRU caching and IP-based rate limiting, and automated weekly data refresh via GitHub Actions.

ScholarTrace | scholar-trace.vercel.app

- Built a full-stack academic integrity platform: a TypeScript VS Code extension with real-time file edit monitoring (per-file debounce, Webview sidebar, globalState), an Express 5/MongoDB REST API on Railway with JWT/bcrypt auth and 11 endpoints, and a Next.js 16/React 19/Tailwind 4 dashboard on Vercel.
- Implemented class codes via crypto.randomBytes, ownership-verified CRUD, searchable student list, chronological snapshot timeline, code viewer with line numbers, and a 30-test end-to-end bash test suite. Published on the VS Code Marketplace (v0.3.1).

TECHNICAL SKILLS

AI & ML: Claude (Anthropic), AI-Assisted Development, scikit-learn, TensorFlow, PyTorch, Bayesian ML, Prompt Engineering

Web & Mobile: React, React Native Concepts, TypeScript, JavaScript, Next.js, HTML, CSS, Tailwind CSS, Vite

Backend & Data: Python, FastAPI, Node.js, Express, REST APIs, MongoDB, Mongoose, SQL, Git/GitHub, AWS Concepts

Practices: Unit Testing, Integration Testing, Documentation, CI/CD, Agile/Scrum, Code Reviews, JWT Auth