

# Niloy Saha

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## Education

### Dickinson College

B.S. in Computer Science and Data Analytics, GPA: 3.54

Expected Jun 2027

Carlisle, PA

**Relevant Coursework:** Data Structures and Algorithms, Operating Systems, Database Systems, Statistical and Machine Learning, Open Source Software Development, Object-Oriented Programming, Computing Abstractions

## Experience

### FarmData2 (Open Source)

May 2025 – Jul 2025

Web Development Intern

Carlisle, PA

- Improved farm task workflows by engineering a new "Passes" feature across backend logic and Vue.js components, reducing data entry time by about 15% for over 5,000 active farmers and ensuring consistent state transitions.
- Built modular, reusable Vue.js components and a scalable navigation hub that clarified user flows and improved usability across mobile and desktop clients.
- Enhanced reliability by creating a Docker-based CI/CD pipeline with automated linting and test checks, tightening feedback loops and shortening review cycles by 20%.

### Development Initiative for Social Awareness (DISA)

Jul 2024 – Aug 2024

Software Development Intern

Dhaka, Bangladesh

- Worked on a cloud-native microfinance platform by designing REST APIs and implementing Java/Spring Boot backend logic for loan and savings workflows serving 50,000+ accounts, including precise interest and repayment calculations.
- Increased reporting performance by indexing high-traffic MySQL tables and restructuring queries, reducing latency from 1.8s to 0.35s and improving stability under heavy load.
- Collaborated with frontend and data teams in an agile, sprint-based environment to shape predictable data flows, validate business rules, and refine dashboard interactions for distributed branch operations.

### 84 Lumber

Nov 2023 – Mar 2024

Student Researcher

Carlisle, PA

- Built an AI-assisted pipeline translating legacy C Basic code into Python/Java, updating 30% of the codebase.
- Added unit tests and documented edge cases to strengthen correctness and long-term maintainability.

## Skills

**Languages:** TypeScript/JavaScript, Python, Java, SQL, HTML/CSS, C

**Frameworks/Technologies:** React, Next.js, Vue, Node.js (Express/Fastify), Spring Boot, Django/FastAPI, REST API

**Tools & Databases:** AWS, Docker, Git, CI/CD, Redis, MySQL, PostgreSQL, MongoDB, Bash, Supabase, WebSockets, MCP

## Projects

### TripSmith – AI Group Travel Planning Platform

travel-project-dun-seven.vercel.app

FastAPI, Python, PostgreSQL, Supabase, Dedalus MCP agent

- Architected a real-time agentic group travel planner with AI-powered itinerary generation based on budget and preferences.
- Implemented concurrency-safe FastAPI with Supabase auth/state, integrating a Dedalus MCP agent to call relevant APIs.

### Veritas – AI-Powered Codebase Review and Documentation Verification

veritas-alpha.vercel.app

FastAPI, Python, React, Google Gemini, Sentence Transformers

- Built a documentation verification system that flags code-doc mismatches on PRs using embeddings and LLM analysis.
- Implemented token-efficient prompt for LLM calls to keep only the relevant context, reducing cost by about 88%.

### FyndMate – Developer Matching App

github.com/niloy-saha-123/FyndMate

Fastify, Node.js, TypeScript, React Native, Expo, Supabase, Redis, PostgreSQL

- Built a Supabase + Fastify backend mobile app handling matching, authentication, chat system and fast feed generation.
- Implemented Redis caching, rate limiting, and privacy-safe location handling with production-grade architecture.

## Leadership

### Dickinson College Badminton Club

Co-Founder & Secretary

- Co-founded and grew a 100+ member sports community, organizing weekly practices and tournaments to promote teamwork, inclusivity, and student well-being.