

# Satvik Mathur

Troy, NY | [satvikmathur.me](https://satvikmathur.me) | [linkedin.com/in/satvik-mathur](https://linkedin.com/in/satvik-mathur)  
– Looking for internship or co-op between Fall 2026 and Fall 2027 –

## EXPERIENCE

### LiDAR Raspberry Pi Robot | Project

*Embedded Systems Software Engineer*

**Troy, NY**

*May 2026 – Current*

- Developed a differential-drive robot simulation in Gazebo/ROS2, implementing C++ nodes for obstacle avoidance and navigation logic.
- Designed the system architecture for a planned Raspberry Pi 4 + STM32 split (high-level compute / real-time motor control via micro-ROS), with implementation in progress.

### Rensselaer Polytechnic Institute | Grainger Library of Sampled Sounds

*Research in Computer Science*

**Troy, NY**

*July 2025 – Dec 2025*

- Developed an accessible digital audio workstation (DAW) prototype in React and Tailwind CSS, with a component architecture designed for neurodivergent workflows and screen-reader compatibility.
- Built a modularized sound management system that can run 200 concurrent sounds and handle efficient playback using browser caching and lazy loading.

### Aether Software, LLC

*Full-Stack Software Engineer*

**Troy, NY**

*Mar 2025 – Dec 2025*

- Architected a desktop document editor using Electron, Vite/React, and Tailwind CSS, implementing offline-first sync via SQLite with conflict-free replication to Supabase PostgreSQL.
- Validated REST endpoints with Postman and automated tests for authentication, sync, and database operations. Designed REST API and Supabase RLS policies for authenticated document access, supporting offline edits, conflict resolution, and secure sync across local SQLite and PostgreSQL.
- Developed edge functions to handle AI requests and an NLP-based tool to generate writing profiles for users, processing 100k+ word documents in < 750ms, with up to 98% data efficiency while retaining stylistic data.
- Built Next.js subscription platform deployed on AWS Lightsail with GitHub Actions CI/CD, integrating Stripe API for billing and user account management.
- Wrote custom extensions for TipTap WYSIWYG document editor for background saves and stylistic extensions.
- Used SQLite and PostgreSQL to allow users to edit documents offline and sync them online as necessary, allowing back-end to handle 2,000 cloud-sync operations/min while ensuring seamless experience for users.

### Trainafy | Project

*Full-Stack Mobile Software Engineer*

**Gill, MA**

*Mar 2023 - Nov 2023*

- Built and released a cross-platform React Native app using Expo framework for iOS and Android.
- Implemented Firebase back-end to ensure automatic scaling, seamless data transmission, and rapid deployment.
- Created RESTful API in Express to enable efficient data exchange and integration, designed to scale to 100s of calls/sec using Amazon EC2 and PostgreSQL.

### BGHD Development, LLC

*Project Manager & Software Engineer*

**Cary, NC**

*Feb 2017 - Aug 2020*

- Served as Lead of Commissioned Projects and as a Software Engineer, producing back-end Java APIs, Minecraft plugins (“mini-games”), player data automation tools.
- Led teams of 3-5 in development, testing, and delivery of 30+ commissioned projects valued at \$18,000, ensuring timeliness and high-quality outcomes.
- Developed and deployed 12 projects commissioned between \$250-\$2,500 each, utilizing technologies such as SQL, Git, Trello, Jira, AWS, and Java Reflection to meet client specifications and maintain robust system performance.

## EDUCATION

### Rensselaer Polytechnic Institute

*Bachelor of Science in Mechanical Engineering*

**Troy, NY**

*Expected May 2028*

*Rensselaer Motorsport, Research in Computer Science, Pi Lambda Phi Fraternity*

*Courses: Modeling/Control of Dyn. Systems, Differential Eqns, Linear Algebra, Statistics*

### Northfield Mount Hermon High School

*GPA: 3.77 | Engagement Leader | Courses: Discrete Math & Python*

**Gill, MA**

*Aug 2020 – May 2024*

## SKILLS

- **Languages:** Java, C++, TypeScript, Python • **Platforms:** AWS, GCP, Firebase, Supabase, MongoDB
- **Tools:** Git, Linux, React, Next.js, React Native, Electron, SQLite, MySQL, PostgreSQL, REST, Jira, Express, WSL
- **APIs:** OpenAI, Gemini, Claude, Stripe • **Processes:** Agile, SDLC, CI/CD • **Testing:** Postman, Vitest, Jest
- **Learning:** ROS2, Gazebo, Rviz, Nav2, Docker, MATLAB