Michael Lieberman

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Education

Bachelor of Science in Computer Science *May 2025*
Stony Brook University, Stony Brook, NY
Activities: Secretary for Club Roller Hockey (NCRHA)

Associate of Science in Computer Science *May 2023*
Suffolk County Community College, Selden, NY

Projects

Parking 4 Stony Brook University | React, Node.js, Express, PostgreSQL, PostGIS, JWT, Render
https://github.com/michaelliebs/Parking4SBU

- Developed a full-stack parking management platform to optimize lot usage across campus.
- Designed a Manhattan distance **wayfinding algorithm** that improved lot selection **accuracy by 35%**, reducing user search time and walking distance.
- Built a **secure, role-based admin** dashboard enabling CRUD operations for user and parking data.
- Implemented automated testing using **Jest** (backend) and **Cypress** (frontend).
- Collaborated in a four-member **Agile** team, contributing **UML diagrams** to refine backend design.

Campus24/7 (SBUHacks 2025) | React, Node.js, Express, MongoDB
https://github.com/michaelliebs/campus24-7

- Engineered a student engagement platform where users can post, discover, and join campus events.
- Designed **RESTful APIs** and normalized **MongoDB/Mongoose** schemas for users, events, attendance, and comments; implemented schema validation and population
- Integrated **JWT-based authentication** and protected routes for secure session handling.
- Optimized front-end interactivity using **React** hooks and **Axios** for live event filtering.
- Contributed to project architecture and version control using **Git** and Agile methodology.

School Manager | Java, JavaFX
https://github.com/michaelliebs/School-Manager

- Developed a full stack application to manage academic records, implementing **CRUD operations** for **1,500+ students/instructors and 40,000+ textbooks** with error handling.
- Designed an **object-oriented** architecture using inheritance hierarchies and abstract classes to model academic entities, significantly reducing code duplication, and improving maintainability.
- Implemented persistent data storage using **Java Serialization**, with automatic backup/restore functionality to prevent data loss.
- Created a **responsive GUI** with multiple view controllers featuring dynamic search functionality, real-time data updates, and input validation.

Skills

- Languages: Java, TypeScript, JavaScript, Python
- Frameworks & Libraries: React, Node.js, Express
- Databases: PostgreSQL, MongoDB
- Testing: Jest, Cypress
- Tools: Git, Bash, WebSocket
- Concepts: REST APIs, Authentication, OOP, Data Structures, Algorithms