Jack Sweeney

sweeney.jac@northeastern.edu | LinkedIn | GitHub | (518) 248 - 9369

Education

Northeastern University, College of Engineering Boston, MA
Candidate for BS in Computer Engineering – GPA: 3.754, Dean's List May 2027
Concentration: Computer Science
Activities: NU Club Running, Forge, Generate
Coursework: Calculus 1 and 2 / Differential Equations and Linear Algebra / Probability and Statistics / Physics 1 and 2 / Discrete Structures / Cornerstone 1 and 2 / Fundamentals of Computer Science 1 and 2 / Object Oriented Design / Foundations of Cybersecurity / Computer Systems / Fundamentals of Networks / Circuits and Signals: Biomedical Applications / Embedded Design: Enabling Robotics / Fundamentals of Electronics

Ichabod Crane High School Valatie, NY
High School Honors Diploma – GPA: 99.14 September 2019 – May 2024
Awards: National Honor Society, AP Scholar, National Rural and Small-Town Recognition Program, New York State Outdoor Track and Field Championship Competitor

Technical Skills

Software Skills: Java, Python, C++, MATLAB, Version Control - GitHub
Hardware Skills: PCB Design, Circuit Analysis and Design, Microcontroller Programming, System Integration

Projects

Generate – PlaitPilot Boston, MA
Electrical/Computer Engineer January 2025 – Present
PlaitPilot is a venture to automate the organizing and preparing hair extensions for professional and hobby braiders
- Designed and implemented user controls and sensors subsystem, including component specification, schematic design, and layout for custom PCB development
- Spearheaded the implementation of a ESP32 microcontroller for the main PCB; developed an intuitive GUI to efficiently control and monitor sensors, motor drivers, and other critical components

Forge – Pill-Pal Boston, MA
Product Lab Member September 2024 – December 2024
Pill-Pal is an automated pill dispenser with biometric authentication and a touchscreen interface, designed to ensure safe and user-friendly child medication management.
- Led system integration for stepper-motors, optical fingerprint sensor, MP-3 speakers, and a touchscreen
- Developed a child-friendly GUI using the LVGL library to manage authentication, configure pill dispensing, mood tracking, and enhance the overall user experience

Three Trios – Game Application Boston, MA
Technical Contributor September 2024 – December 2024
Three Trios is a strategic one or two-player board game built in Java using Model-View-Controller design, featuring AI players and modifiable rules
- Implemented Strategy pattern to enable flexible AI player behavior and configurable different game-rule variants
- Integrated the Observer pattern, facilitating real-time updates between components of the MVC
- Adapted classmate-developed View code to integrate with our Controller and Model using Adapter patterns

Catch 'Em All – Interactive Museum Exhibit Boston, MA
Technical Contributor September 2023 – December 2023
Catch 'Em All is an interactive exhibit that uses hands-on gameplay and vibrant LEDs to teach children about soil biodiversity and sustainability.
- Designed a game-board using AutoCAD and 3D printed interactive game pieces for an educational exhibit
- Programmed and integrated RFID systems with Arduino to track user interactions and control LED feedback
- Presented and achieved 80%+ user satisfaction through hands-on engagement

Work Experience

Samascotts Orchard Kinderhook, NY
Supervisor May 2020 – August 2024
- Managed and oversaw financial transactions with precision, including counting drawers, managing deposit slips, and maintaining product records
- Communicated effectively with the manager to ensure optimal stock levels and enhance overall operational efficiency
- Supervised customer interactions and resolved customer complaints

Interests

Interests: Running, Weightlifting, Design and Fabrication of Clothing, Computer Building, Coffee