

Elisabeth Yap

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Education

Rowan University, Glassboro, NJ **GPA: 3.45/4.0**
B.S. Electrical & Computer Engineering; Minor in Computer Science
Awards/Honor: Dean's List

Sept 2023- May 2027

Experiences

Electrical Engineering Co-op | Atlantic City Electric May 2026 – Present

- Analyzed condition and performance data for transformers, reclosers, and other distribution equipment to identify reliability concerns
- Reviewed distribution feeder maps and cross-referenced GIS and utility databases to verify network design and asset information.
- Created and updated recloser maps to improve operator navigation and distribution system visualization.
- Collected and analyzed operational data using Excel and utility software to support engineering decisions.

Research Intern | BioDome Inc Feb 2025 – May 2025

- Conducted technical research on **greenhouse automation**, **IoT control systems**, and **precision agriculture** technologies.
- Evaluated **PLC**, **IoT**, and cloud-based control platforms for scalability, integration, and environmental monitoring capabilities.
- Researched environmental sensors and communication protocols (**LoRa**, **Zigbee**, and **Wi-Fi**) for controlled-environment agriculture.
- Authored technical reports and presented engineering recommendations to support future prototyping and research initiatives.

Assistant Artificial Intelligence (AI) Researcher | College of Engineering Jan 2024 – Jan 2025

- Developed and trained machine learning models for real-time pattern recognition on embedded hardware
- Implemented data acquisition, preprocessing, and supervised learning pipelines for classification tasks
- Optimized inference performance for resource-constrained systems, focusing on latency and accuracy tradeoffs
- Prototyped algorithms in Python/C++ for edge AI deployment and real-time decision making
- Collaborated on research exploring human machine perception and signal driven classification systems

Electrical Engineering Intern | Atlantic City Electric Jun 2024 – Aug 2024

- Analyzed electrical load and system reliability data to support safety-critical infrastructure decisions
- Evaluated sensor-driven equipment health metrics (transformers, reclosers) for predictive maintenance insights
- Interpreted electrical measurements and engineering standards to guide system-level design reviews
- Communicated technical risk and performance metrics to multidisciplinary engineering teams

Projects

LaundryIQ | *Independent Clinic Project*

- Designed a non-invasive laundry monitoring device using ESP32-S3 and current sensing
- Developed custom PCB hardware and enclosure for reliable deployment in commercial and residential laundry environments.
- Built an IoT platform for real-time machine monitoring, notifications, and predictive maintenance analytics.
- Conducted 20+ customer discovery interviews through the **NSF I-Corps program** to validate market demand

AI Note Recorder | *ESP32, Embedded Systems, AI*

- Engineered an **AI-powered** note recorder that captures, transcribes, and summarizes spoken conversations in real time.
- Integrated speech recognition and **LLM-based** summarization to generate structured meeting notes and action items.
- Implemented end-to-end workflow for audio processing, transcription, and AI-assisted note organization.
- Optimized transcription accuracy and response latency through iterative testing and refinement.

Tetris Arcade Machine | *CAD, Circuit Prototyping*,

- Designed a custom **3D-printed** enclosure in SolidWorks following IP20 safety and DFM principles
- Soldered and assembled digital logic circuits, LED displays, and push-button input hardware.
- Prototyped and debugged circuits using breadboards, a digital multimeter, and an oscilloscope.
- Integrated electromechanical systems, including wiring, controls, and power distribution.
- Created **CAD** models and engineering documentation to support fabrication and assembly.

Traffic Light Controller | *SolidWorks, Circuit analysis, 3D printing*

- Designed and soldered a traffic light control circuit using logic gates and timing components.
- Tested **PCBs** to ensure proper LED sequencing and signal output timing.
- Applied multimeter testing and troubleshooting to validate system reliability and voltage tolerances.
- Performed **oscilloscope** and **DMM** testing to verify circuit timing, input response, and overall game functionality.
- Presented final project demonstrating accurate signal logic and real-world traffic control simulation

Leadership

IEEE Rowan Student Chapter | Rowan University

Vice Chair (December 2025-Present), Service Chair (2025), and PR Chair (2024)

- Lead chapter operations, member engagement, and strategic planning alongside the executive board.
- Organized the **2026 IEEE Student Activities Conference (SAC)**, coordinating logistics for 250+ attendees, technical workshops, and industry networking events.
- Co-organized **ProfHacks 2026**, **Profhacks 2025**, and **Profhacks 2024** a 24-hour hackathon hosting 20+ teams, industry judges, sponsors, and technical workshops.
- Developed promotional materials and managed social media campaigns to increase event attendance and chapter visibility.

Profhacks | Rowan University

Lead Organizer (2024-Present)

- Led cross-functional planning and execution of Rowan University's annual **24-hour engineering hackathon**.
- Coordinated **20+ student teams**, judges, sponsors, volunteers, and event logistics to deliver a successful large-scale competition.
- Managed project timelines, team communications, and operational planning from concept through event execution.
- Collaborated with industry professionals, faculty, and student organizations to enhance participant experience

Skills

Programming Languages: Python, C++, Java, HTML, CSS, JavaScript, TypeScript, Flutter, Lua, Verilog

Embedded & Hardware: Circuit Prototyping, Soldering, Oscilloscope, Digital Multimeter, Breadboarding, Digital Logic, Arduino

CAD & Design: SolidWorks, Onshape, 3D Printing

Software: PyTorch, OpenCV, React, Next.js, Flutter, Firebase, Git/GitHub