Theodore Rogalski

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Education

Stevens Institute of Technology, Hoboken, NJ **Sep. 2023 – May 2027**

Bachelor of Engineering in Computer Engineering *GPA: 3.86*

- **Coursework:** Data Structures and Algorithms, Differential Equations, Circuits and Systems, Microprocessor Systems
- **Leadership:** Vice-President, *Sigma Phi Epsilon* Learning Community
- **Honors:** California State Seal of Biliteracy (Spanish); Dean's List (Fall 2023–Present)

Experience

Air Force Research Laboratory **Jun. 2025 – Aug. 2025**

AI Research Intern *Rome, NY*

- Applied genetic algorithms to solve mission-planning problems on classified datasets.
- Leveraged High-Performance Computers (HPCs) to accelerate model training by 12×.
- Integrated cloud-based pipelines to streamline experimentation and reproducibility.

Stevens Institute of Technology **Apr. 2025 – Present**

Undergraduate Research Assistant — Multi-Agent Persistent Monitoring *Hoboken, NJ*

- Designed a telemetry system to capture state–action logs from multi-agent simulations.
- Trained offline reinforcement-learning policies on the Stevens HPC cluster, achieving a 15% improvement over baselines.
- Developed a control-theoretic exploration strategy that reduced convergence time by 30%.

California Air Resources Board **Dec. 2023 – Aug. 2024**

Computer-Engineering Student Assistant *Sacramento, CA*

- Built a Vehicle Identification Number (VIN) decoder that processed millions of records in hours, replacing a costly commercial tool and saving the state six figures annually.
- Developed a secure Flask-based GUI; automated deployment with GitHub Actions and isolated dependencies via Python virtual environments.

Stevens Makerspace **Mar. 2024 – Present**

Software Designer *Hoboken, NJ*

- Engineered an access-management application serving thousands of users campus-wide.
- Resolved critical bugs and authored unit/acceptance tests and documentation for a networked Python program.
- Implemented real-time email alerts for system health, enabling immediate response to outages.

Projects

8-bit CPU — *Verilog HDL, GTKWave, Icarus Verilog* **Jan. – Feb. 2025**

- Implemented an 8-bit RISC CPU with general-purpose registers, an ALU, and a micro-coded control unit.
- Crafted a custom instruction set and assembler; executed Fibonacci and sorting benchmarks.
- Validated timing and logic with GTKWave simulations and automated testbenches.

AI Image-Recognizer Web App — *TensorFlow.js, React, CUDA* **Nov. – Dec. 2023**

- Trained convolutional neural network on 3000 labeled plant-species images achieving 94% accuracy.
- Integrated the model into a React front-end with TensorFlow.js for in-browser inference.

Autonomous Maze-Solving Robot — *Arduino, DC-motor drivers, EasyEDA* **Jan. – May 2024**

- Designed maze-navigation algorithm; achieved top-quartile completion times in competition.
- Created and assembled a compact four-layer PCB using Altium software to minimize footprint and wiring complexity.

Veterinary-Science County Risk Assessment — *Python, REST APIs* **Mar. 2024 – Present**

- Authored comprehensive data reports for 29 California counties on zoonotic-disease risk.
- Automated data collection via API scripts, boosting team throughput by 200%.

Technical Skills

Languages / Databases: C++, Python, SQL, Matlab, CUDA, JavaScript

Web & Embedded: Flask, React, HTML/CSS, Node.js, Raspberry Pi

Tools: Docker, Git, CAD, PyTorch, TensorFlow