Scott Torzewski

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EDUCATION

Lafayette College: *Bachelor of Science, Electrical and Computer Engineering | Math Minor* *May 2025* | **Easton, PA**
Saint Louis University: *Engineering Study Abroad* *Spring 2023* | **Madrid, Spain**

SKILLS

Languages & Platforms: Python • SQL • MATLAB • LTspice • KiCad • SystemVerilog • Vivado • Fusion • AutoCAD
Technical Skills: Data Analysis • Data Visualization • Machine Learning • Embedded Systems • PCB Design & Layout Circuit Design • Microcontrollers • Applied Statistics • Technical Documentation • Multidisciplinary Collaboration

PROJECTS

Predictive Data Science for Manufacturing Defects | *Machine Learning* *February 2025*

- Developed machine learning models to predict 3D-printed part quality and manufacturing defect risks using regression and classification techniques. Improved prediction accuracy by 7.1% (R^2: 0.8648 → 0.9353), reduced error rates (MAE ↓ 25%, RMSE ↓ 30%) through hyperparameter tuning. Applied SQL for data manipulation and analysis, achieving 95% model accuracy in defect prediction using Random Forest. Discovered actionable insights by analyzing complex, non-linear relationships and anomalies, leveraging Scikit-learn, Pandas, Numpy.

Smart Assisted Living Environment | *Embedded Systems, Electronics & CAD Design* *August 2024 - Present*

- Designed a 20-component automated security system, integrating a custom PCB with optimized trace layouts to improve voltage output and reduce signal interference by 30% via oscilloscope. Programmed Raspberry Pi Pico W in Python for seamless hardware-software integration. Engineered a dual-spring assist kick-button system for disabled users, creating intricate 3D models in Fusion 360 to optimize durability, accessibility, sensor integration. Developed detailed system documentation, including schematics, component specifications, and wiring diagrams.

Enzyme Clustering Mathematical Model & Physiological System Analysis | *Biomedical Systems* *Dec. 2022/2023*

- Developed a MATLAB/Simulink-based model simulating cancer cell enzyme clustering to analyze metabolic pathway shifts, optimized model for 92% accuracy against real-world data. Integrated sensor applications to quantify physiological system dynamics through deconstruction of circuit modeling to gain biomedical insights.

WORK EXPERIENCE

Day & Zimmerman | Mason & Hanger: *Electrical Engineering Intern* *May 2024 - August 2024* | **Lexington, KY**

- Developed and optimized critical electrical systems for federal and military facilities using advanced CAD/BIM platforms, significantly improving design efficiency and reducing iteration cycles through precise system modeling.
- Contributed to 3 successful project bids by analyzing electrical schematics, conducting thorough engineering calculations, assisting with submittals & cost estimate preparations achieving major reductions in project costs.

Royce Brook Golf Club: *Operations Associate* *May 2022 - August 2023* | **Hillsborough, NJ**

- Provided exemplary service to over 5000 customers and developed a logistics system for monitoring enrollment admissions, reducing weekly operational costs by 10% and streamlining customer registration processes.

LEADERSHIP EXPERIENCE AND ACTIVITIES

Johnson & Johnson: *Technology Awareness Program (TAP) | Market Performance Group Externship Workshop* *2022*

- Project lead in the design of a transportation logistics system and secure patient info website for healthcare crisis.
- Completed course in Marketing Insights and participated in a team-based case study with Care With Pride®.

Boy Scouts of America: *Eagle Scout | Meritorious Award | World Conservation Award* *March 2013 - August 2018*

- Led a team in the construction of a roof for an outside dog enclosure, totaling 125 hours with 35 volunteers.
- Received Meritorious Award for lifesaving actions on backpacking excursion, demonstrating crisis management.

Volunteer Work: *Gigi's Playhouse | DKE Fraternity Member* *June 2019 | September 2022 - Present*

- Volunteered several weeks caring for children at Gigi's Playhouse, Down Syndrome Achievement Center.
- Actively participated in philanthropic initiatives and service events as a member of Delta Kappa Epsilon.

Awards: Eagle Scout, BSA • Marquis Scholar, Lafayette College • Bergh Family Fellow Recipient
Relevant Courses: Economics • Statistics • Data Structures & Algorithms • Design Thinking • Embedded Systems