PAUL THILLIER

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SUMMARY

Electrical Engineering student with experience in PCB design, embedded systems, and digital hardware development. Designed and built multiple microcontroller-based systems, custom circuits, and automotive electronic solutions, with strong hands-on experience in system integration, debugging, and validation. Academic focus includes digital design and signals and systems, with particular interest in hardware architecture, signal behavior, and real-world electronic implementation. Background includes four years of FIRST Robotics and over three years as an automotive mechanic specializing in electrical diagnostics, wiring, and full system restoration. Seeking engineering roles involving hardware design, PCB development, and embedded or digital systems.

EDUCATION

B.S.E., Electrical Engineering Graduating Dec 2026
Arizona State University, Tempe, AZ 3.3 GPA
Ira A. Fulton Schools of Engineering
Relevant coursework: Digital Systems and Circuits, Hardware Design Lang/Prog Logic, Signals and Systems

A.E., Electrical Engineering Graduated Dec 2023
Maricopa Community Colleges, Mesa, AZ
Relevant coursework: Digital Systems and Circuits, Hardware Design Lang/Prog Logic, Signals and Systems

TECHNICAL SKILLS

Electrical Engineering Tools: Cadence, LTspice, Altium, LabVIEW, ModelSim, Quartus Prime
Design and Modeling Tools: MATLAB, Autodesk Fusion, Microsoft Office,
Programming: Verilog, System Verilog, C++, Python
Languages: English - Fluent, French - Fluent

PROFESSIONAL EXPERIENCE

Tech Research Summer Intern – Intel Chandler, AZ May 2025 - Aug 2025

- Coordinated and supervised semiconductor fabrication equipment moves across research labs and fabs under cleanroom safety and contamination controls
- Led daily planning meetings to maintain move schedules, reduce downtime, and resolve logistical conflicts
- Developed Excel automation tools to schedule equipment moves, track progress, and identify delays
- Operated research equipment and collected experimental data to support semiconductor process development

Mechanic – Desert Dawg Auto Repair Fountain Hills, AZ Sep 2021 - PRESENT

- Diagnosed and repaired mechanical and electrical vehicle systems, including CAN bus networks, using scan tools, oscilloscopes, and electrical diagnostics
- Performed full vehicle inspections, preventative maintenance, and fault isolation to identify root causes of failures
- Executed complete classic car restorations and resto-mod builds, integrating modern powertrains, suspension, braking, and electronic systems
- Rebuilt engines and drivetrains, fabricated custom components, and completed final assembly, wiring, and system validation

ENGINEERING PROJECTS More details available at: Engineering Projects Portfolio

FIRST Robotics Competition Robots Learn More 2016 – 2020
Designed and built multiple competition robots, achieving 3rd place at the FIRST World Championships

- Designed, wired, and programmed embedded control systems and mechanical subsystems for competition robots
- Achieved FIRST World Championship Semi-Finalist placement and earned multiple regional engineering awards

Automotive Relay Tester Learn More 2023
Designed and built a microcontroller-based relay tester with resistance, timing, and stress-test capabilities

- Designed custom PCB and microcontroller system to measure relay resistance, timing, and functionality
- Implemented LCD interface and automated pass/fail diagnostics for automotive relay testing

Automotive AC Direction Control System Learn More 2023
Designed ESP32-based actuator system to electronically control vehicle HVAC airflow direction

- Developed ESP32-based servo control system for automotive HVAC airflow actuation
- Designed electrical and mechanical interface for integration with vehicle HVAC controls

Smart Weather Station with Cloud Data Logging Learn More 2022
Developed IoT weather station transmitting multi-sensor data to cloud-based Google Sheets system

- Integrated environmental sensors with Arduino and ESP8266 for wireless data acquisition
- Implemented cloud logging system for remote monitoring and long-term data collection

BMW K100 Gear Position Converter Learn More 2021
Designed microcontroller-based signal converter to interface legacy gear sensor with aftermarket speedometer

- Developed Arduino-based circuit to convert analog gear signals into discrete digital outputs
- Designed and tested prototype hardware for integration with aftermarket speedometer systems

OTHER EXPERIENCE

Robotics Class / **Club Member – Desert Mountain High School** Scottsdale, AZ Oct 2016 - May 2020

- Designed, built, wired, and programmed four competition robots for FIRST Robotics events.
- Contributed to circuit design, embedded control systems, and mechanical integration.
- Served as lead driver during competitions and participated in system testing and troubleshooting.
- Competed as a FIRST Robotics World Championship Semi-Finalist and collaborated with engineers, mentors, and sponsors.

Robotics Club TA – International School of Arizona Scottsdale, AZ Aug 2019 - Dec 2019

- Assisted instruction through hands-on robotics activities, lesson planning, grading, and student supervision
- Guided students in VEX Robotics design, assembly, wiring, and programming
- Reinforced engineering fundamentals, problem-solving methods, and safe lab practices

AWARDS

Chairman's Award – FIRST Robotics
The Chairman's Award is FIRST's most prestigious honor, recognizing the team that best represents a model for others through impact, outreach, and embodiment of FIRST's mission

Gracious Professionalism Award – FIRST Robotics
The Gracious Professionalism Award recognizes teams that demonstrate exceptional respect, teamwork, and professionalism both on and off the competition field

Rookie All-Star Award – FIRST Robotics
The Rookie All-Star Award honors a first-year team that shows outstanding achievement in engineering, teamwork, and integration into the FIRST community