TIMOTHY GAYED

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PROFESSIONAL SUMMARY

Electrical engineer with 5+ years of professional experience in systems integration, environmental qualification testing, and PCB design, with a hands-on background spanning embedded systems, EMC/EMI compliance, and hardware design across the full development lifecycle.

Proven ability to own complex technical programs, present risk assessments to stakeholders, and collaborate across cross-functional teams. Complements professional experience with self-directed projects in embedded systems, avionics, and analog design. Pursuing an M.S. in Electrical Engineering at NJIT. Eager to apply a multidisciplinary engineering foundation to hardware challenges in automotive, robotics, medical devices, or consumer electronics.

EDUCATION

Electrical Engineering — 24 of 30 credits completed
Master of Science, New Jersey Institute of Technology — Newark, NJ

Electrical and Computer Engineering — 2016–2020
Bachelor of Science, Rowan University — Glassboro, NJ

TECHNICAL SKILLS

Electrical	Altium, DipTrace, SPICE, Embedded Design, EMI/EMC, Fiber Optics, PCB CNC Mill, SMT Stenciling, PCB Design, Fabrication & Diagnosis
Mechanical	SolidWorks, Fusion 360, Autodesk, FDM & SLA 3D Printing, Laser Cutter, Machine Shop
Software	C, Python, Embedded Programming, RTOS, Edge AI, Photoshop, MATLAB, LaTeX

WORK HISTORY

TEST ENGINEER — Dec 2022 – Feb 2026
Lockheed Martin, Moorestown, NJ

- Conducted and led environmental qualification testing for MRC Launcher Systems (VLS and Typhon Weapon Systems) across EMI, thermal, vibration, and high-impact shock environments.
- Authored tailored test procedures to meet MIL-STD-461, -464, -810, -167, and MIL-DTL-901 requirements while ensuring accurate simulation of operational conditions.
- Hosted Test Readiness Reviews (TRRs) with U.S. Army and Navy stakeholders, presenting and obtaining government approval of test procedures prior to execution.
- Identified, documented, and troubleshot test failures through structured test reports, diagnosing root causes and failure modes during live test events.
- Presented formal risk assessments to Army and Navy stakeholders quantifying failure likelihood, field impact, soldier-facing symptoms, and workaround procedures.
- Recommended design improvements to the engineering team based on test findings, coordinating with program leadership through the formal change approval process.

SERVICES ENGINEER — June 2020 – Dec 2022
Lockheed Martin, Camden, NJ

- Generated and maintained AEGIS Combat System cable documentation including Cable Block Diagrams (CBD), Cable Running Sheets (CRS), Minimum Data Sets (MDS), and Cable Impact Statements (CIS) in support of the U.S. Navy.
- Conducted pre-delivery inspections aboard 3 new construction destroyers, identifying cable routing hazards and flagging discrepancies for rework prior to commissioning.
- Verified shipbuilder implementation of wiring diagram revisions against team-managed AEGIS documentation, ensuring configuration accuracy before fleet delivery.
- Reviewed Government Furnished Information (GFI) for design errors prior to integration into AEGIS cable documentation, preventing downstream rework from incorrect source data.

APPRENTICE ENGINEERING TEAM STUDENT MANAGER Sept 2016 – March 2020
Electrical and Computer Engineering Department, Rowan University

- Supervised over 90 multi-disciplinary student workers for the Rowan Engineering department.
- Provided technical services to researchers and students including PCB design and fabrication, soldering, 3D printing, and instrumentation calibration.
- Conducted technical skills workshops training students in PCB design and prototyping.

INTEGRATION SYSTEMS INTERN June 2019 – Aug 2019
Technology Dynamics, Bergenfield, NJ

- Conducted environmental stress screenings (ESS) of military hardware prior to installation in service vehicles.
- Performed ruggedization of embedded electronic systems and aided in design reviews of rugged enclosures for compliance with military specifications.
- Leveraged hands-on board diagnosis skills to rework and repair malfunctioning hardware.

FIELD TECHNICAL SPECIALIST INTERN Sept 2015 – June 2016
Mercedes-Benz, Montvale, NJ

- Collaborated with Field Technical Specialists to run tests and isolate safety issues for future vehicle recalls.
- Presented results which were used to correct a driver alert in affected models for the following model year.

ENGINEERING PROJECTS

INTERCOLLEGIATE ROCKET ENGINEERING COMPETITION (IREC)

- Developed Air Quality payload and avionics systems for operation at 30,000 ft at speeds of Mach 1.6.
- Designed control system for carbon fiber curing oven with ability to maintain temperature for up to 24 hours; used to cure carbon fiber weaves on rocket body tubes and achieve a higher service ceiling.

BASS SYNTHESIZER, EMBEDDED SYSTEMS FINAL PROJECT

- Created a bass synthesizer by modifying an antique Hammond Organ using 25 debounced input keys wired into an MSP430 microcontroller.
- Output from digital-to-analog converter filtered with 4 notch filters to feature frequencies from 27.5–110 Hz.

SELF-PARKING RC CAR, MECHATRONICS PROJECT

- Designed and fabricated a remote-controlled car with autonomous self-parking capability based on a modified 3D-printed Enzo Ferrari model.
- Integrated 4 laser distance sensors to detect obstacles and execute autonomous parallel parking sequences between two objects without human input.
- Incorporated 4 10,000 RPM brushless DC motors, 40A electronic speed controls, and a 1400 mAh battery for the drivetrain, and a 20kg servo motor for steering.
- Designed a custom breakout PCB inside the car body for 5V regulation, I^2C sensor interfacing, and tail-light control.
- Enabled wireless RC control and telemetry from a smartphone app over Bluetooth using an ESP32.

ELECTRIC GUITAR EFFECT PEDALS

- Co-developed a commercial series of six electric guitar effect pedals including Clean Boost, Compressor, Distortion, Fuzz, Phaser, and Tremolo.
- Developed PCB layouts optimizing component placement for mechanical fit, positioning potentiometers and LEDs to align with enclosure drilling patterns.
- Operated a CNC laser cutter to engrave custom artwork onto 75 powder-coated 1590B aluminum enclosures housing the finished pedal PCBs.
- Brought products to market by exhibiting and selling the completed pedal series at a trade show.

DECORATIVE EMBEDDED LED CONTROLLER

- Designed a custom snowflake-shaped PCB with white solder mask in DipTrace, featuring a PIC16 microcontroller driving RGB LEDs with programmed animated lighting sequences.
- Modeled a geometrically symmetrical snowflake outline in SolidWorks and exported as DXF for board edge cutout.
- Incorporated ICSP programming header pins directly into the PCB layout to enable firmware flashing.
- Developed embedded C firmware in MPLAB, utilizing the PIC16's internal PWM peripheral to generate smooth, dynamic LED lighting patterns.
- Completed end-to-end hardware development including schematic design, PCB layout, and SMT assembly.