Michael Cohen

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EDUCATION

Lehigh University (Bethlehem, PA)
Florida Atlantic University (Boca Raton, FL)
Bachelor of Science in Mechanical Engineering, GPA 3.80 (expected graduation Dec 2026)

SKILLS

CAD - SolidWorks, NX, Fusion 360; FEA - ANSYS, SolidWorks Simulation; Programming - MATLAB, Python, C++; Instrumentation/Test - TCs, strain gauges, hypotubing; DAQ - NI/LabVIEW, MATLAB script.

EXPERIENCE

Engineering Intern (Summer 2025) **Parametric Solutions Inc.** (Jupiter, FL)

- *HPC build readiness & traceability*: Prepped kits for a commercial engine HPC; audited instrumentation and reconciled BOM/inventory in Excel; issued build-prep and discrepancy logs to engineers/technicians.
- *Work-instruction & drawing quality*: Reviewed AOS books and drawings; flagged missing references/part mismatches; delivered concise summaries, improving instruction clarity and shop handoff for assembly.

Undergraduate Engineering Peer Advisor (Fall 2025) **Florida Atlantic University** (Boca Raton)

- Supported FAU engineering majors on course sequencing, degree audits, and GPA planning; provided 1:1 advising and referrals (tutoring, FE prep, internships), streamlining registration and ensuring student graduation.

PROJECTS

Turbine Blade Cooling Thermal Design and Analysis (Fall 2025)

- Designed SolidWorks and ANSYS steady-state thermal models of a first-stage HPT blade to evaluate internal cooling with rib-roughened serpentine channels to reduce peak material temperature and thermal stress.
- Performed sensitivity studies on cooling design with compressor-bypass coolant; quantified ΔT_{max} vs. ΔP tradeoffs and material-limit margin, maintaining thermal targets and manufacturable channel geometry.

Data-Driven Chatbot Optimization for Undergraduate Engineering Advising (Fall 2025)

- Revamped chatbot knowledge base (20,000+ curated snippets) and logic guardrails by analyzing 800+ chats in Excel; used confusion matrix/A/B tests to boost confidence, autonomy of query solutions, and improve tone.

Autonomous Land Vehicle Design Project for Electromechanical Devices Course (Spring 2025)

- Programming Lead for Arduino-based autonomous obstacle-avoidance rover: implemented rule-based state machine using tri-directional ultrasonic sensing with redundancy and a failsafe reorient; integrated 2WD drive, motor driver, and 12 V pack with 5 min runtime and delivered a collision-free final demo in a 2 m^2 course.

Wind Tunnel and Fin Analysis Project for Fluid Dynamics Course (Spring 2025)

- Led design/fab of a subsonic wind-tunnel test rig to experimentally analyze fin cross-sections, optimizing aerodynamic efficiency by evaluating lift, drag, and flow characteristics across various fins.

ORGANIZATIONS

Member, Tau Beta Pi Engineering Honors Society (Fall 2025 – Present)
Member, American Society of Mechanical Engineers (Spring 2025 – Present)
Member, Technology and Aerospace Club (Spring 2025 – Present)