Michael Thompson

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Education

University of Illinois at Urbana-Champaign — Urbana, IL
Bachelor of Science in Electrical Engineering — Aug 2025 – May 2029
Relevant Coursework: Circuit Design, Signal Processing, Control Systems, Embedded Systems, Power Electronics, Machine Learning

GPA: 3.82/4.0

Technical Skills

Languages and Technologies: Python, C, MATLAB, Verilog, Assembly, TensorFlow, PyTorch

Tools and Frameworks: LTspice, Cadence, Arduino, Raspberry Pi, Git, Docker, AWS

Projects

Smart Grid Optimization System | *Python, MATLAB, IoT*

- Developed a smart grid optimization system to improve energy distribution efficiency by 20%
- Implemented machine learning models to predict energy demand and optimize power flow
- Designed a real-time monitoring dashboard using Grafana and InfluxDB

Autonomous Vehicle Simulation | *C++, ROS, Gazebo*

- Built a simulation environment for autonomous vehicle navigation using ROS and Gazebo
- Implemented path planning algorithms (A*, RRT) and obstacle avoidance systems
- Conducted performance analysis and optimization for real-time decision-making

IoT-Based Home Security System | *Python, Flask, MQTT, IoT*

- Designed and implemented a home security system using IoT devices and cloud integration
- Developed a mobile app for remote monitoring and alerts using React Native
- Implemented facial recognition for authorized access using OpenCV and TensorFlow

Research Experience

Research Assistant - Power Systems Lab — Jan 2028 – May 2028
University of Illinois at Urbana-Champaign — *Urbana, IL*

- Conducted research on renewable energy integration into power grids
- Developed optimization algorithms for energy storage systems
- Published findings in IEEE Transactions on Power Systems

Work Experience

Electrical Engineering Intern — Jun 2029 – Aug 2029
General Electric — *Chicago, IL*

- Designed and tested power electronics circuits for industrial applications
- Developed simulation models for power system stability analysis
- Collaborated with senior engineers to optimize circuit designs

Embedded Systems Intern — May 2028 – Aug 2028
Texas Instruments — *Dallas, TX*

- Developed firmware for embedded systems using C and Assembly
- Designed and tested PCB layouts for IoT devices
- Optimized power consumption for low-power embedded systems