MATYAS NEGASH

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EDUCATION

Bachelor of Science in Computer Engineering, Lehigh University — Aug 2021 - May 2025

Fundamentals of Engineering Exam (PA) - (EIT Pending) — July 2025

EXPERIENCE

Airport Intern — May 2024 - Aug 2024
Sugar Land Regional Airport — *Sugar Land, TX*

- Reduced bird strike reporting time by 50% for operations agents using Power Apps (Azure Power Platform)
- Designed and aggregated survey with 200+ respondents using Microsoft Forms and Power Automate
- Created a data visualization dashboard using Power BI & Power Query to present survey data
- Aided operations agents in runway/taxi-way inspections, drone monitoring programs, and earned Part 107 Remote Pilot Drone Certificate

Engineering Intern — June 2023 - July 2023
Smart Grid Technology Lab - TU Dortmund University — *Dortmund, Germany*

- Programmed a React dashboard to display the operational status of EV chargers within the smart grid network
- Created a Python application to display charge cycles of single and 3-phase cars and assessed provided grid flexibility
- Delivered 30 min technical presentation to research staff and PhD candidates at internship conclusion

PROJECTS

TerraCore Soil Sensor
mnegash9.github.io/#/projects/terracore

- Designed a soil monitoring system measuring humidity, temperature, light, CO2, and pressure with C++ on the Particle Photon 2 (ARM Cortex-M33)
- Created a frontend dashboard in React to display sensor data sent with webhooks and predicted future results using random forest model
- Designed a 2-layer PCB in KiCAD reducing footprint size by 70% compared to initial prototype
- Presented prototype at Eureka Pitch Competition, placing 2nd in People's Choice voting out of 16 participants

Blimp Package Delivery Drone
ieeexplore.ieee.org/document/10355047

- As part of Global Impact Fellowship, helped prototype a blimp to transport medicine and supplies in remote areas with limited infrastructure using an ESP32 mircrocontroller
- Migrated flight control from Crazyflie 2.0 platform to ESP32 microcontroller, reducing cost by 50%
- Co-authored peer-reviewed paper on future of blimp technology in the IEEE Global Humanitarian Conference Journal

SKILLS

Technical Skills	Java, C, C++, React.js, HTML, CSS, Javascript, SQL, Verilog, MATLAB
Software	Fusion 360, VS Code, Git, KiCad, Xilinx Vivado, Linux, LTSpice
Hardware	Oscilloscope, Signal Generator, Soldering, Logic Analyzer