Nurahmed Multezem 240-872-9870 | nmulteze@umd.edu | linkedin.com/in/nurahmed-multezem

Professional Experiences

ESURGI Baltimore, MD
Hardware Engineering Intern Oct 2025 - Present
- Prototyping Biostabilizer, a digital biofeedback device for postural muscle engagement in physical therapy
- Researching and integrating sensors, circuits, and firmware tests to enhance accuracy and reliability

INSPIRE Lab College Park, MD
Undergraduate Research Fellow Oct 2025 – Present
- Analyzing fMRI timeseries data from the Human Connectome Project using MATLAB and Python

University of Maryland College Park, MD
Firmware/Embedded Systems Intern Jun 2025 – Sep 2025
- Engineered a real-time gesture recognition and pointing direction wearable prototype for human–drone interaction
- Integrated ESP32-Tiny-S3 firmware (C/C++) with nRF24L01 RF wireless communication to a Raspberry Pi 5 base station for real-time data streaming
- Optimized sensor preprocessing pipeline, improving recognition accuracy from 65% to 71% across 6 gesture types (10,800 total samples collected from 3 participants)
- Designed and 3D-printed a custom sensor housing that reduced hardware misalignment issues

University of Maryland-NSF-DREEM College Park, MD
Signal Processing Research Intern Jan 2025 – May 2025
- Developed a 32.8 kHz sonar prototype circuit to complement existing 40 kHz module, enhancing detection resolution to 1.85 mm surface textures in controlled lab testing
- Collected and processed sonar echo data using DSP techniques, differentiating between a flat surface and frequency-cancelling targets (32.8 kHz and 40 kHz)
- Presented technical results to students and researchers at NSF-DREEM Poster Session and at the Montgomery College STEM Conference

NASA L'SPACE Mission Concept Academy-Student Participant Silver Spring, MD
Command & Data Handling Role Jan 2023 – May 2023
- Implemented subsystem architecture for a Mars rover mission concept
- Modeled rover parts in Siemens NX, optimizing structure within a 30 kg total mass constraint
- Collaborated in a 10-member interdisciplinary team, producing a 120-page Preliminary Design Review (PDR) that received positive evaluation from NASA engineers

Montgomery College Silver Spring. MD
Student Assistant-Tutor Sep 2023 – May 2025
- Tutored 10–15 students per week in STEM, and MATLAB, improving average exam performance by ~14%

Skills

Programming and Firmware: C++, Python, Java, Verilog, HDL,
Embedded Systems: ESP32, Raspberry Pi, Arduino, Microcontrollers, I^2C, SPI
Hardware Design: Cadence, PSpice, Altium Designer, PCB Prototyping, Oscilloscope, Logic Analyzer
CAD: Siemens NX, On Shape, Creo Parametric, Autodesk Inventor, Fusion 360, 3D Printing

Education

University of Maryland, College Park, MD Expected graduation: May 2027
B.S. Computer Engineering
Relevant Coursework: Digital Logic Design, Discrete Signal Analysis, Circuits, Data Structures and Algorithms

Awards and Leadership

- Student Employee of the Year 2024-2025-MC | Dean's List | Phi Theta Kappa | IEEE Member | CUR | SGA