Furdeen Hasan

LinkedIn: /in/furdeenhasan

Email: furdeenh@udel.edu
GitHub: @furdeenh
Phone: +1(516)-412-1104

Education

University of Delaware Newark, DE

B.S. Computer Engineering ; GPA: 3.409/4.0 *Expected May 2025*

- **Dean's List**: Spring 2021, Fall 2022
- **Relevant Coursework**: Data Structures, Algorithms, Operating Systems, Computer Networks, VLSI Design, Microprocessor Systems, Analog Circuits, Digital Systems, Signals and Systems, Digital Signal Processing, Electronic Circuit Analysis, Probability, Statistics, and Random Signals, ECE Design & Entrepreneurship, Entrepreneurial Marketing

Experience

University of Delaware Newark, DE

Office of Academic Enrichment - Tutor *May. 2023 - Present*

- Offered academic support in math, science, engineering, and writing courses to undergraduate students.
- Ensured high academic standards by maintaning a self-grade of B+ or higher in all subjects tutored.

Residence Life & Housing - Resident Assistant *Aug. 2022 - Present*

- Oversee an apartment-style college residence hall of 60 residents, providing 24/7 support and conflict resolution.
- Organized community meetings and individual catch-up sessions to strengthen community bonds.
- Contributed to the RA Advisory Team, focused on program development discussions between RAs and Residence Life & Housing board of directors.

New Student Orientation Leader *Nov. 2021 - Jul. 2022*

- Guide and managed a group of 20 or more students conducting education and social activities.
- Presented information sessions on University Policies, Student Life, Health and Well-Being, and Academic Resources.

Department of Mathematical Sciences - Calculus Coach *Sep. 2021 - Dec. 2022*

- Led group tutoring for Calculus I, engaging up to 30 students in interactive learning and worksheet discussions.

Office of Communications and Marketing - Social Media Ambassador *Feb. 2021 - Jun. 2022*

- Developed social media content for University Instagram and Twitter, enhancing the university's online presence.

Projects

Wireless Security Enhancement Using Non-Cryptographic Methods nRF52840-DONGLE, Mirage

- Led a team to strengthen BLE device security by developing sophisticated attack simulations using an nRF52840-DONGLE and Mirage, and pioneered a non-cryptographic method to differentiate devices based on power spectral density analysis, contributing to BLE network security without cryptography.
- Part of the broader Vertically Integrated Projects: "Internet of Threats" initiative at the University of Delaware, addressing IoT and mobile device cybersecurity challenges.

Advanced IoT Acceleration and Temperature Sensing System KiCAD, Arduino Uno, Adafruit IO

- Designed and Engineered a Printed Circuit Board with Arduino, integrating an LIS3DHTR accelerometer and OLED display. Enabled real-time data visualization on Adafruit IO.

4-Bit VLSI Arithmetic Logic Unit Design and Implementation Cadence Design Systems

- Designed a 4-bit Arithmetic Logic Unit using Cadence Design Systems. Ran Design Rule Checks, Layout Parameter Extraction, and Layout vs. Schematic Comparison

Advanced Path-Tracking Autonomous Robot PIC32 Microcontroller, MPLAB X IDE

- Engineered an autonomous robot powered by servo motors, using a Diligent Basys MX3 PIC32MX Board, and IR sensors. Programmed for precise navigation and control, featuring a sound-activated start and integrated time display.

Skills

Languages: C++, C, Python, Bash, Mathematica, zsl, MATLAB, Javascript, Java, VHDL,

Software: KiCAD, Arduino UNO, VMWare, Cadence, Eclipse, Origin, MPLAB X IDE, Wireshark, Vivado Design Suite, Visual Studio, Adafruit IO, Xcode, Spyder, React

Technologies: Git, GitLab, Azure, Google Cloud, MacOS iWork, Adobe Creative Cloud, Microsoft Office