

# Zeina Abu Ghosh

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## EDUCATION

**Texas A&M University**, College of Engineering, College Station, TX

May 2025

Bachelor of Science, Computer Engineering GPA: 3.53

**Honors:** Dean's List Fall 2020, Spring 2021, 2022, 2023, and Summer 2023

**Relevant Coursework:** *Program Design and Concepts, Discrete Structure for Computing, Data Structure & Algorithm, Digital System Design, Electrical Circuit Theory, Computer Architecture, Signals & Systems, Security of Embedded Systems*

## EXPERIENCE

**Texas Instruments** Product Test Engineer Intern – Dallas, TX

May 2024 – Aug 2024

- Developed and enabled production capability for a portfolio of general-purpose ADCs and DACs, covering applications in industrial, automotive, medical, communication, enterprise, and personal electronics.
- Managed manufacturability and production stabilization for high-speed data converters used in aerospace, defense, wireless, and industrial test applications.
- Designed and executed product qualification plans for both general-purpose and high-speed devices, including hardware design and data analysis, to ensure high precision and performance.
- Defined and implemented testability strategies for integrated circuits, focusing on high-speed conversion applications.
- Developed test hardware and programs for Automatic Test Equipment (ATE) to characterize and qualify both general-purpose and high-speed data converters, such as Eagle Test Systems and V93K.
- Delivered robust and cost-effective automated testing solutions to enhance production efficiency and accuracy for a wide range of device options, including high-performance and low-power configurations.

**Texas A&M University** Physics Recitation Leader – College Station, TX

Aug 2022 – May 2023

- Conducted weekly tutoring sessions for 30+ students to allow learning opportunities for all students and peers.
- Assisted students in mastering the fundamental concepts of engineering and physics.
- Participated in the growth of GPA averages across campus due to teaching practices by analyzing individual students' weak points and working on ways to strengthen their understanding of the subject.
- Engaged in guiding students and tailoring teaching methods to individual learning styles.

## PROJECTS

**Traffic Light Controller Lab** – Digital Systems Design

- Designed a state diagram for the traffic light controller based on given specifications.
- Implemented the traffic light controller in Verilog, considering time constraints and logic design.
- Utilized Vivado development tools for synthesis and bitstream generation.
- Programmed ZYBO Z7-10 board to test and validate the controller's functionality.

**Operational Amplifier Application** – Electrical Circuit Theory

- Designed and implemented an electronic security system that detects obstructions in an IR light beam.
- Utilized operational amplifiers (LM741) for signal amplification and (LM319) op-amp comparator for logic level detection.
- Tested the system's performance and reliability, considering factors like distance between emitter and detector.

**ARMv8 Programming** — Computer Architecture and Design

- Created a workspace on a Raspberry Pi board, checked out the lab code repository and explored the code files.
- Gained proficiency in using the GNU Project Debugger (GDB) to analyze and debug assembly code.
- Utilized GDB's Text User Interface mode for source code, assembly code, and command interfaces.

## LEADERSHIP & EXTRACURRICULAR

**Fish Camp** – Counselor

Jan 2023 - Present

- Guided and supported freshmen at Fish Camp, fostering a memorable inclusive experience to enhance their journey by imparting the cherished traditions, fostering personal growth, and instilling the value of Texas A&M.

**Arab Student Association at A&M** – Historian

Jan 2022 - Present

- Led the social media department, responsible for capturing and curating visual content, and strategically posting across all online platforms.

## SKILLS & ADDITIONAL INFORMATION

**Programming Languages** C++, Python, Verilog, Raspberry Pi, R, RStudio

**Foreign Languages:** Arabic (Fluent); French (Intermediate)