Abdulrahman Tabbaa

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Education

Georgia Institute of Technology

Master of Science in Electrical and Computer Engineering, GPA: 3.85 — Graduated: December 2024
Concentrations: Telecommunications and DSP

Bachelor of Science in Electrical Engineering, GPA: 3.85 — Graduated: December 2023
Minor in Computer Science (Artificial Intelligence)

Relevant Coursework: Machine Learning, Intro to Computer Vision, Intro to AI, Data Structures and Algorithms, Computer Communications, Information Theory, Wireless Networks, Advanced DSP, Random Processes, Digital Communications, Electric Vehicles, Control System Design, Basics of SysArch, Microelectronic Circuits

Work Experience

Georgia Tech College of Computing, *Teaching Assistant, Machine Learning Course* — August 2023 – December 2024

- Create homework and notes for **1000+ students** to assess mastery of lecture material
- Assist students for **3 hours** weekly to enhance understanding and interest in course material
- Help develop automation tools on Gradescope to improve grading accuracy and speed

Texas Instruments, *Intern, Applications Engineer Intern* — Santa Clara, CA — June 2022 – August 2022

- Developed an application guide to help customers comprehend the SPI protocol and configure it accurately on the next generation of FPD-Link serializer/ deserializer devices
- Advertised use cases of FPD-Link SERDES devices to stakeholders thereby retaining customers
- Wrote and documented C code to implement a SPI controller/ peripheral pair on an ARM Cortex-M microcontroller, enabling simple repetition of experiments and further improvements

Skills

Programming:	Java, Python, HTML/CSS, Javascript, NextJS, React, C/C++, MATLAB, VHDL, Verilog
Instrumentation:	FPGA Board, microcontrollers, Raspberry Pi, Arduino, surface-mount soldering
Software:	OpenAI, Langchain, PyTorch, Tensorflow, Pinecone, Pandas, Firebase, Selenium, Docker, Git, AutoCAD, NI Multisim, SPICE, Altera (Intel) Quartus II, EAGLE PCB, Wireshark, ns3, Linux
Communication:	Design documents, bill of materials (BOM), trade show presentations
Languages:	Arabic (fluent), and Spanish (intermediate)

Certifications

Qualcomm 5G Introductory-Level Certificate — May 2024
Fundamentals of Engineering (FE) in ECE — February 2025
AWS Cloud Practitioner — January 2025 - present

Projects

Trainable AI Chatbot — January 2024 - August 2024
AI RAG chatbot with GPT-3.5-turbo capabilities hosted on a NextJS server

- Trained the model on issues faced by students to reduce FAQ generation time by over **300%**
- Programmed a customizable, user-friendly training feature to tailor the chatbot to the preferences of the user

Hackathon – Simple Congress — July 2024
Web-scraper tool which scours congress.gov summarizing bills and their votes

- Utilized the Selenium web scraper to extract relevant information and pass the information to an LLM to summarize the bill, saving users **hours** of navigating the website

Scam Website Detection — May 2023 – July 2023
Project which applies machine learning models to predict whether a website is fraudulent or safe

- Analyzed data with **over 88,000 points and 111 features** to achieve an **f1 score of 91% and accuracy of 94%**

Autofocus Adjustable Glasses — January 2023 – May 2023
Designing glasses for presbyopia patients which electronically adjust magnification

- Practiced development life-cycle with customer discover followed by constructing a functional proof of concept

- Presented at an exposition with over 200 teams, demonstrating desirability of the product

Music-playing Character Box August 2022 – November 2022

Group project which configured a character model to play audio and move via remote input

- Gained experience programming a Raspberry Pi and fabricating a PCB on EAGLE software

Rubik's Cube Solver November 2021 – May 2022

A contraption capable of physically solving a 3x3 Rubik's Cube

- Compiled over 6000 lines of code in C++ and established I2C communication between a microcontroller, an Arduino Uno, **7** servo motors, and **2** color sensors to solve the cube in an average of **70** moves using **CFOP**

Leadership

GaTech Muslim Students Association Vice President August 2021 – May 2022

- Collaborated with 6 board members and co-orchestrated **40+** events, some with **over 200 attendees**, throughout the year to satisfy the religious, social, and professional desires of the **110+** members
- Communicated with the non-profit PCRF to organize a marathon-weekend initiative fundraising over **$15,000**