Abdulrahman Tabbaa

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Objective

A versatile, fourth year Electrical Engineer with a minor in Computer Science (AI). Effective communication and collaboration skills from years of leadership roles, team-based projects, and internships.

Education

Georgia Institute of Technology Atlanta, G.A. June 2019 – present
Bachelor of Science in Electrical Engineering, GPA: 3.83 Expected Graduation: December 2023
Minor in Computer Science (Artificial Intelligence)

Skills

Programming:	Java, FXML, Python, MATLAB, MIPS assembly, ARMS, C/C++, VHDL, Verilog, MySQL, pThread
Instrumentation:	FPGA Board, ARM mbed microcontrollers, Raspberry Pi, Arduino microcontrollers, laser cutters, 3D printers, TI MSP430 Launchpads, surface-mount soldering, spectrum analyzers, oscilloscopes
Languages:	English (fluent), Arabic (fluent), and Spanish (intermediate)
Software:	AutoCAD, NI Multisim, SPICE, Altera (Intel) Quartus II, Git, EAGLE PCB, Adobe Photoshop, Adobe Illustrator, Microsoft Excel, Word, PowerPoint
Platform:	Microsoft Windows XP/Vista/7/8/10, Ubuntu Linux, Google Colab
Communication:	Public speaking, project proposals, design documents, technical communication

Work Experience

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

- Developed an applications guide to help customers gain an overview of the SPI protocol and configure it accurately on the next generation of FPD-Link serializer/ de-serializer devices
- Advertised use cases of FPD-Link SERDES devices to an internal team located in Dallas
- Wrote C code to implement a SPI controller and peripheral pair on the MSP430 Launchpads

Projects

Scam Website Detection May 2023 – July 2023

Open-ended group project which applies machine learning models to predict whether a website is fraudulent or safe

- Analyzed data consisting of over 88,000 points and 111 features
- Imported libraries from scikit-learn to reduce important features down to only 4 and build a prediction model
- Tested feature permutations, random forests, logistic regression, and gaussian naïve bayes
- Achieved an f1 score of 91.35% and a 94.0% accuracy on test data

Autofocus Adjustable Glasses January 2023 – May 2023

Open-ended group project that led to designing glasses for presbyopia patients which electronically adjust magnification

- Conducted customer discovery for over a month to narrow down a desirable project idea
- Collaborated with 5 other members to construct a proof of concept
- Presented at a Senior Design exposition (trade show) with over 200 teams

Rubik's Cube Solver November 2021 – May 2022

An individual project that involves a contraption capable of physically solving a 3x3 Rubik's Cube

- Wrote over 6000 lines of code in C++ which analyzed and solved the cube in an average of 70 moves.
- Established I2C communication between an ARM microcontroller, an Arduino, 7 servo motors, and 2 color sensors.
- 3D printed custom parts, utilized Lego-like toys, and purchased cheap servo motors to cut costs by at least $200.

Leadership

GT Muslim Students Associations (MSA) Vice President August 2021 – May 2022

- Co-orchestrated social, professional, and religious events held throughout the year (around 6 a month)
- Met with 6 other board members weekly to discuss future plans and expand upon feedback from 110+ members
- Raised awareness of MSA and its purpose through volunteering and interfaith efforts
- Designated responsibilities to a committee of 4 members leading to smooth operation of an interfaith event with over 200 attendees

Relevant Coursework

- **Introduction to Perception and Robotics**: Explore problems/ solutions of computer and robot perception and action from the point of view of autonomous robot navigation
- **Machine Learning**: Theoretical approaches and real-world applications to supervised and unsupervised learning

- **ECE 4270 (Fundamentals of Digital Signal Processing):** Sampling Theorem, DFT, DTFT, FFT algorithm, and z-transform.
- **ECE 4550 (Control System Design)**: Design of control algorithms using state-space methods
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