4151 Wellborn Road, Apt 1210 **KARIM A. ZAHER** (832) 472-4220
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Languages and Technologies

Assembly; C++; Verilog; Python; Linux
Robot Operating System(ROS); Win32 API; Visual Studio 2019; LTSpice; Arduino; Machine Learning

Education

College Station, Tx **Texas A&M University** **Fall 2018 - May 2022**

- B.S Honors Computer Engineering with Minor in Computer Science
- CS courses: Computer Organization; Programming Studio; Microcomputer Systems; Intro to Computer Sys.; Data Structure & Algorithm; Discrete Structure for Computing
- EE courses: Electronics; Digital Integrated Circuit Design; Computer Arch. & Design; Signals & Systems; Electric Circuit Theory; Intro Digital Sys. Design
- Math courses: Topics in Applied Math(Linear Algebra); Statistics; Differential Equations; Calculus I, II, III

Experience

Projects

Stanford University Machine Learning Course (2019). Statistics-heavy course that teaches different types of machine learning models (Linear Regression, Logistic Regression, Gradient Descent, Regularization, Artificial Neural Networks, SVMs, Unsupervised Machine Learning, Bias/Variance theories, etc.) [Octave]

Binary Search Tree Report (2020). Created a Binary Search Tree data struct from scratch, created multiple trees using 3 different types of datasets (Sorted, Randomized, Balanced/Perfect), then calculated the worst-case runtime of each dataset based on Binary Search Trees. Conclusion: The most efficient way to store data depends on what data structure is being used. Randomized datasets gave a runtime of $O(\log_2 n)$ while sorted values returned a runtime of $O(n)$. [C++]

Graph Report (2020). Implemented a Graph data struct from scratch with a topological sort function. Used the project to create a graph of my degree program, and generated a well-balanced class schedule for my remaining semesters that guarantees that class prerequisites are met.

Employment

Software/Finance Lead, Intern **Texas A&M SEC Internship** **Summer 2020**

TX Air National Guard Crisis Communications System

- Worked within a multidisciplinary team of four to develop a personnel accountability application for the Texas Air National Guard that aimed to reduce update acknowledgement from 12-24 hours to 1-10 hours through an automation system.Developed and calculated cost of 2 additional solutions which could be utilized while app development takes place
- Negotiated pricing for services from multiple companies to get the best prices
- Conceptualized and designed a mobile and web app.
- Attended over 50 hours of Professional Development Sessions in:
    - Relevant Work Experience
    - Oral and Written Communication
    - Teamwork and Interpersonal Skills
    - Creativity and Problem Solving
    - Mentored by an industry professional and a professor of practice
    - Worked directly with industry executive