Joshua Abraham

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Education

Texas A&M University College Station, TX

B.S. Computer Engineering *Aug. 2021 – May 2025*

Relevant Coursework:
Foundations of Software Engineering, Intro to Computer Systems, Program Design, Data Structures & Algorithms, Discrete Structures, Digital Design, Computer Architecture, Signals & Systems, Circuit Theory

Employment

Student Technician *@ TAMU Technology Services, College Station TX* *Oct. 2022 – Present*

- Developing onboarding curriculum for incoming IT student technicians to be successful in the Help Desk role within the TAMU Technology Services – including materials for programs like ServiceDesk and ServiceNow.
- Manage development of TAMU's intranet portal (SharePoint) to drive demand for the new training and development program for 800+ prospective IT student workers and existing staff, across TAMU's IT organization.
- Co-produce reporting and program updates for the TAMU Academic Operations Leadership board

Math Tutor *@ Mathnasium, Sugarland TX* *Jul. 2022 – Sep. 2022*

- Managed personalized tutoring for multiple students for math programs across K-12.
- Recognized as Employee of the Month.

Experience

Texas A&M Solar Car Racing Team

Telemetry Sub-team Engineer *Sep. 2022 – Present*

- Prototype telemetry node schematics using Altium Designer to capture operational data.
- Develop novel data collection solutions utilizing the vehicle's CAN bus and STM32 microcontrollers to pass back telemetry data, using both wired and wireless communication protocols.
- Leverage Python to analyze telemetry data and optimize vehicle components for optimal performance.

Motor Power Sub-team Engineer *Sep. 2022 – May. 2023*

- Design electric schematics and layouts for the power distribution board using Altium Designer.
- Support integration of the solar energy, stored in batteries, into sub-systems powering the electrical motor.

NASA Community College Aerospace Scholars Competition *May 2022 – Jul. 2022*

- Collaborated with finalists across the US to design extra-planetary human habitats for future NASA missions, in a competition sponsored by NASA.
- Supported research and design of extra-platantery power generation and power storage systems, leading as the Electrical and Materials Engineer across a diverse team of 10 finalists.
- Achieved 1st place within the NASA competition, qualifying for an on-site NASA center apprenticeship.

Selected Projects

Library Management System *Jul. 2023*

- Developed a library management system in C++ to find and manage school library books available in inventory, optimized for performance and fast information retrieval.

Sudoku Solver *Feb. 2023*

- Developed a custom C++ program to automate solving of sudoku puzzles with SMT-LIB code – generating several hundred lines of propositional statements to solve sudoku puzzles in under a minute.
- Tested, validated, and refined the code using online automation tools (Z3 playground).

Seam Carving *Mar. 2023*

- Developed a custom C++ program which enabled content-aware image resizing by assessing pixel contrast (RGB) to remove unnecessary backgrounds within an image.

Skills

Languages: C/C++, Python, JavaScript, SQL, Verilog RTL, ARMv8, Java, R, HTML/CSS, Latex
Developer Tools: Github, Linux, Bash, Visual Studio Code, Ubuntu, Google Cloud Platform, Power BI, Excel
Libraries/Frameworks: Pandas, NumPy, Matplotlib, Angular.js, Node.js
Hardware Tools: Altium Designer (ECAD), Raspberry Pi, Arduino, Breadboard Electronics, FPGAs, Solidworks