Mark Mitri

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EDUCATION

Lehigh University, Bethlehem, PA *May 2023*
Bachelor of Science in Computer Engineering
Relevant Coursework: Software Engineering, Computer Architecture, Introduction to Data Science, Microcontroller Laboratory, Web Systems Programming, Senior Project Design, FPGA Lab, Introduction to Artificial Intelligence

TECHNICAL SKILLS/LANGUAGE PROFICIENCY

Computer skills: Git, Agile Methodology, RStudio, Office 365, Excel, JIRA, SOLIDWORKS, xTuple, Arduino
Electrical skills: Multimeters, Soldering, Microcontrollers, Oscilloscopes, Breadboarding
Software skills: JavaScript, HTML/CSS, Rust, R, MATLAB, Java, C/C++
Language proficiency: English (Native), Arabic (Intermediate)

PROFESSIONAL EXPERIENCE

Enterprise Resource Technical Lead Internship | **RR-Racing** | Exton, PA *July - August 2020*

- Successfully transitioned from Quickbooks to xTuple enterprise resource software.
- Directed data cleanup and migration of **1000+** items, customers, and vendors into spreadsheets.
- Developed CSV atlases to merge complex customer data, mapping **20+** data points for a flawless replacement.

IT Consultant Work Study | **Lehigh Technology Service** | Bethlehem, PA *September 2019 - May 2023*

- Managed the Student Technology and Repair Service (**STARS**), overseeing technical support for **300+** students.
- Provided expert technical support for software and hardware repairs, including data backups using ycopy, virus removal through Malwarebytes, and software re-installation within Windows and Mac systems.
- Created tickets in JIRA for effective tracking and documentation of the progress for each student.

SOFTWARE PROJECTS

Personal Website: www.mmitri.github.io (for additional information and projects)

Ultimate Tic-Tac-Toe *May 2023*

- Designed a two-player web game called Ultimate Tic-Tac-Toe, played on a larger 9x9 grid.
- Utilized: Javascript, HTML/CSS

Word Search Game *May 2023*

- Developed the client-side web application for a multi-player word search game.
- Integrated socket.io library for client-server communication.
- Utilized: Javascript, HTML/CSS, socket.io, node

AsaLang | Programming Language Built on Rust *January - May 2023*

- Developed a lexer in Rust for efficient tokenization and pattern recognition for 11 categories of ASCII characters.
- Constructed a grammar and parser to translate lexical tokens into abstract syntax trees to write and call functions, do math, and return values.
- Implemented an interpreter enabling the execution of code using a Value enum and Runtime struct to manage variable bindings and function definitions.
- Utilized: Rust, nom library, stack runtime

Data Analysis of Traffic Violations *December 2022*

- Produced a statistical analysis of traffic stops in Maryland correlating car type and receiving a ticket, sifting through 1.8M data points.
- Created Naive Bayes, logistic regression, KNN, and decision tree models to highlight the potential correlation, with a max recall of 70%, precision of 70%, and accuracy of 65%.
- Utilized: RStudio, e1071 library

Social Media App Development *August - December 2022*

- Launched a Social Media App with a team of five using Agile methodologies, rotating roles, and 2-week sprints.
- Coded the cloud-based front end with JS, HTML/CSS, and React, utilizing Maven for build and execution.
- Implemented Google's OAuth, REST API & CRUD resource management, and a backend server hosted on Heroku.
- Utilized: Javascript, HTML/CSS, React, Maven, Git, Trello, RESTful Architecture

ADDITIONAL EXPERIENCE

Engineer | **Lehigh Formula Society of Automotive Engineering** | Bethlehem, PA *September 2019 - May 2023*

Team Lead - Aerodynamics subsystem

- Orchestrated a high-performing team of 4 in planning and producing 3 groundbreaking aerodynamic projects.
- Manufactured the team's **1st** carbon composite aerodynamics kit with **15** elements, generating **155** lbs of downforce.
- Initial design in SOLIDWORKS, precise cutting of foam for the molds, then carbon fiber layup process with epoxy.

Designer - Aerodynamics subsystem

- Designed and manufactured carbon composite nosecone and sidepod, reducing the frontal area and weight by **25**%.
- Conducted comparative analysis of **5** undertray profiles, validating a downforce of **50** lbs.
- Organized an **18**-page technical document about aerodynamics and vehicle properties for seamless knowledge transfer.

Member - Chassis & Suspension Team

- Re-modeled and manufactured **10** chassis jigs using SOLIDWORKS, improving production time by **15**%.
- Collaborated with a team to fabricate **4** carbon composite A-arms, achieving a **50**% weight reduction.

Accomplishments

- Ranked **6/100** in business presentation, **27/99** in design event, and **2/100** in weight.
- Ranked **7/100** in business presentation, **16/111** in cost event, and **2/121** in weight.

Senior Capstone Project: Electronic Signal Visualizer | Lehigh University *August 2022 - May 2023*

- Created a mechanical system that produces a Fourier transform visualization from 3 stepper motors.
- Researched sensor specifications and programmed the system using Arduino MEGA IDE.
- Hands-on experience in a lab with oscilloscopes, multi-meters, troubleshooting sensors and motors, and soldering.
- Integrated 3D modeling and printing, laser cutting, machining, and soldering for successful execution.