Mark Mitri

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EDUCATION

Lehigh University, Bethlehem, PA — August 2019 - *May 2023*
Bachelor of Science in Computer Engineering — **GPA**: 3.12
Relevant Coursework: Discrete Structures & Algorithms, Software Engineering, Operating System Design, Computer Architecture, Web Systems Programming, Systems Software, Introduction to Data Science
Software skills: (Familiar) JavaScript, HTML/CSS, Rust, Java, C/C++, Arduino, RStudio
Language proficiency: English, Arabic (Intermediate)

CERTIFICATIONS

Data Analysis with Python, freeCodeCamp.org — May 2024
- Extracted data from CSVs, utilized NumPy, Pandas, Matplotlib, and Seaborn for data processing and visualization.

SOFTWARE PROJECTS

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

Data Analysis of Traffic Violations, Lehigh University, CSE 160 — *December 2022*
- Produced a statistical analysis using *R* of traffic stops in Maryland correlating car type and receiving a ticket.
- Sifted through **1.8M** data points, separating into **5** attributes, removing NA data, and unifying car names.
- Using the *e1071* library, 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%**.

Social Media App Development, Lehigh University, CSE 216 — *August 2022 - December 2022*
- Developed 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 *JavaScript*, *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.

AsaLang Programming Language Built on Rust, Lehigh University, CSE 262 — *January 2023 - May 2023*
- Developed a lexer in *Rust* using *nom library* for tokenization and pattern recognition for **11** categories of ASCII characters.
- Constructed a grammar and parser to translate tokens into ASTs to write and call functions, do math, and return values.
- Implemented an interpreter enabling code execution using a Value enum and Runtime struct to manage variable bindings and function definitions.

Word Search Game, Lehigh University, CSE 264 — *May 2023*
- Developed the client-side web application for a multi-player word search game using *JavaScript* and *HTML*.
- Integrated *socket.io* library for client-server communication between **6** commands.

Ultimate Tic-Tac-Toe, Lehigh University, CSE 264 — *May 2023*
- Coded a local two-player web game using *JavaScript* and *HTML* called Ultimate Tic-Tac-Toe, played on a larger 9x9 grid.
- Updated a table to reference the **32** win conditions and used querySelectors to change the board.

SELECTED EXPERIENCE

IT Consultant Work Study, Lehigh Technology Service, Bethlehem, PA — *September 2019 - May 2023*
- Diagnosed hardware and software issues across Windows, macOS, and Linux systems, supporting faculty and **300+** students.
- Executed extensive data backups/transfers, driver updates, registry fixes, BIOS changes, and OS installations, ensuring comprehensive technical support for repairs and efficient issue resolution.
- Utilized Jira to create tickets for tracking and documentation of the progress.

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.
- Wrote a **22**-page technical report, outlining design requirements, sensor specifications, and total costs.
- Utilized oscilloscopes, multi-meters, troubleshooting sensors and motors, and soldering to test functionality.

Enterprise Resource Technical Lead Internship, RR-Racing, Exton, PA — *July 2020 - 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.

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.

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.