Myron Truesdale

6916 Stratford Dr., Sykesville, MD, 21784 | (443) 472-7828 | mtruesda@gmail.com | GitHub - mtruesda | LinkedIn

EDUCATION

Bachelor of Science (B.S.) - Computer Science, GPA: 3.41   Aug 2020 - Dec 2023 (Expected)
University of Maryland, College Park   *College Park, MD*

Relevant Courses: Advanced Data Structures, Compilers, Linear Algebra, Computer Systems, Algorithms, Computer Vision, Javascript, Advanced Data Science Techniques and Intro to Machine Learning, Computer and Network Security, Programming Languages and Paradigms, Organization of Programming Languages, Applied Probability and Statistics I/II

SKILLS

Frameworks: Docker, Node.js, React.js
Experienced Languages: Python, C, x86 Assembly
Familiar Languages: Java, Ruby, C++, Matlab, R, MIPS, Rust, OCaml, SQL, Javascript, HTML, CSS, Racket, Haskell
Tools: Linux, Windows 10, MacOS, GDB, Junit, Apache, MongoDB, MySQL, GitHub, GitLab, Power BI, AWS

PROJECTS

Titanic Machine Learning Analysis   November 2023
- Applied **scikit-learn** in **Python** for **decision trees**, **SVMs**, and **random forests**, achieving 82.42% accuracy.
- Preprocessed a Titanic dataset with techniques like **one-hot encoding**, preparing it for **machine learning models**.
- Leveraged **cross-validation** for robust model evaluation and derived insights from **feature importance analysis**.

GMM-Based Soccer Ball Detection   September 2023
- Developed a **Python** tool for soccer ball detection, utilizing a **Single Gaussian model**
- Enhanced color thresholding and detection accuracy by implementing a **Gaussian Mixture Model (GMM)**.
- Leveraged the **HSV color space** to improve **color masking** and segmentation precision.
- **Visualized complex data distributions** by plotting **GMM Ellipsoids** with **Ellipsoidal Sigma**
- Calculated the relative distance to the soccer ball in pixels for depth information

File Manager   June 2023
- Developed a file manager inspired by **Windows File Manager**, using **Splay Tree Data Structure** for search efficiency.
- Leveraged **full-stack development skills** in Python to build both the **back-end** splay tree logic and **front-end** GUI
- Incorporated the **splay tree data structure** to significantly improve **search and retrieval performance** within the application

Racket Compiler   May 2022
- Developed a parser, interpreter, and compiler for the Racket programming language using **Racket and x86 Assembly**
- Implemented **type-handling** mechanisms for better type safety
- Enabled the compiler to process and execute **user-defined functions** and optimized it for **tail call recursion**
- Integrated **variable management** to allow for **dynamic programming**
- Supported **lambda functions** to facilitate functional **programming paradigms**
- Verified program correctness by utilizing the **Racket REPL environment** to compare results between local test cases and established Racket outputs

EXPERIENCE

Undergraduate Research Assistant   November 2023-Present
ARLIS, UMD   *College Park, MD*
- **Testing and Simulation** for self-autonomous vehicles in off-road environments
- **Full-stack** development for simulation tools and software
- Recreated the **GUI** used by the simulator using **customtkinter** and **tkinter** tools
- Handled **CSV** files using **Pandas** and **python**, pulling and manipulating information from **AWS S3 Buckets**

Computer Science Teaching Assistant   Sep 2022 - May 2023
University of Maryland, College Park   *College Park, MD*
- Facilitated office hours and assisted in **debugging student C and Racket/x86 code** to provide academic support for "Introduction to Compilers" (**200 students**) and "Introduction to Computer Systems" (**890 students**).
- **Collaborated with the lead professor** on exam content and evaluation criteria and **Graded assignments**
- **Resolved student queries**, enhancing understanding and improving course engagement.

Swim Club Manager   Jun 2021 - September 2023
DRD Pool Management   *Hunt Valley, MD*
- Managed swim club facility, overseeing a team of **32 staff members** to ensure efficient operations
- Represented DRD Company in **communication with the pool board, members and other clients**, addressing concerns and maintaining positive relationships

HONORS & AWARDS

Eagle Scout   2020
Boy Scouts of America