Alan Zhang

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Education

University of Maryland - College Park   Expected May 2025
Bachelor of Science in Computer Science (GPA: 3.7)   *College Park, MD*
- **Relevant Coursework:** Algorithms, Organization of Programming Languages (Ocaml, Python, Ruby, Rust), Object-Oriented Programming (Java), Computer Systems (C), Discrete Structures (Theory)

Technical Skills

Languages/Technologies: JavaScript, C, HTML, CSS, Python, Rust Ocaml, Java, React.js, Django, Node.js, MATLAB, RStudio, Github, Microsoft Office, Excel
Concepts: Compiler, Operating System, Responsive Design, DOM Manipulation, Object-Oriented Programming, Memory Management, Hooks API, Data Structures, Algorithms, Complexity Analysis

Projects

Web Portfolio | *React.js, CSS, HTML, JavaScript, Node.js*   Web Portfolio Link
- Crafted an engaging online portfolio to highlight my full stack development projects, demonstrate my technical skill set, and offer a glimpse into my personal life.
- Implemented dynamic routing in a React.js powered single page application to enhance navigation and user experience with efficient, seamless view transitions.
- Utilized advanced JavaScript features to enable interactive elements and enhance functionality.
- Developed a backend for the contact form page using Node.js, enabling efficient message processing and enhancing user interaction. Implemented middleware for form validation and integrated a secure API for email delivery, improving the overall reliability and user experience of the website.

Weather Tracker | **React, Weather API (openweathermap.org), JavaScript, HTML, CSS**   Weather App Link
- Developed a React-based weather application, delivering real-time meteorological data through a clean and responsive user interface.
- Integrated a RESTful weather API using JavaScript async-await syntax to fetch and display current weather conditions including temperature, humidity, and wind speed.
- Implemented state management in React with the useState hook to handle dynamic weather data and UI state (including rainy, cloudy, snowy, etc.), ensuring seamless and interactive user experience.

Teamfight Tactics Web Tracker | **Django, Python, JavaScript, HTML, CSS**
- Collaboratively engineered a dynamic statistics dashboard using Django, integrating it with Riot Games' API to visualize key performance metrics for specific in-game content.
- Pioneered the implementation of an automated data pipeline that ensured hourly updates of game statistics, maintaining the dashboard's relevance and accuracy.
- Implemented advanced features such as real-time user interaction capabilities, auto-sorting, and efficient search functionalities using JavaScript.

Digital Thermometer System Development | *C, x86-64 Assembly*
- Implemented a battery voltage monitoring system in C(replicated in x86-64 assembly), designed to run on resource-constrained micro controller hardware without a floating-point unit (FPU)
- Created a dynamic display logic to indicate battery status in volts or percentage, employing a custom bit mask strategy to drive an LED-based visual interface
- Engineered a bit manipulation algorithm, optimizing the use of bit-wise operations to avoid division and enhance performance on low-powered devices.

Experience

Target Corporation   April 2023 – August 2023
Team Member   *Malvern, PA*
- Contributed to a team-oriented environment by assisting coworkers during peak hours, which improved overall team efficiency and customer satisfaction..
- Quickly adapted to new roles and responsibilities during peak seasons, showcasing the ability to learn and apply new skills effectively. Engaged in on-the-job training to enhance my knowledge of retail management systems.