Alan Zhang

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EDUCATION

University of Maryland - College Park   Expected May 2025
Bachelor of Science in Computer Science (3.6 GPA)   *College Park, MD*

- **Relevant Coursework:** Data Structures and Algorithms, Artificial Intelligence (AI, Python, Numpy, PyTorch), Object-Oriented Programming (Java), Parallel Computing (C++), Technologies and Paradigms (Dafny, Property Based Testing, JUnit, Hoare logic, Coq)

PROJECTS

Web Portfolio | Next.js, GSAP, Sass, JavaScript   [Web Portfolio Link](#) | [GitHub Link](#)

- Developed a dynamic online portfolio using Next.js to showcase full-stack development projects, technical skills, and relevant experience.

Topflight Tracker | Next.js, GSAP, Axios, Sass, JavaScript, Redis   [Topflight Tracker](#) | [GitHub Link](#)

- Developed a comprehensive football tracking application using Next.js, displaying real-time standings, fixtures, and results for top European leagues.
- Implemented server-side rendering (SSR) to optimize API calls to Football Data API, minimizing client-side load and enhancing app performance.
- Integrated Redis for caching API responses, reducing redundant API calls and improving load times by storing league data and news updates for a defined period.

StreamerTracker TFT | Python, Flask, PostgreSQL, Next.js, GSAP   [Website](#) | [GitHub Link](#)

- Developed a specialized tracking application for Teamfight Tactics streamers using Next.js, showcasing statistics and updates on streamer match history, team compositions, augments, and more.
- Utilized Python and Flask to handle backend processing, managing intricate data interactions and providing API for frontend consumption.
- Integrated Neon for PostgreSQL database management, optimizing data storage and retrieval to efficiently handle streamer statistics and user requests.

EXPERIENCE

Research Assistant Intern   August 2024 – Current
@Temple University   *Remote*

- Engaging in academic research related to Software-Defined Networking (SDN), focusing on the separation of control and data planes, enhancing network flexibility, and understanding SDN's role in simplifying complex network configurations.
- Contributing to the analysis of SDN architecture, including its use of OpenFlow to manage network traffic dynamically and securely through a centralized controller, allowing for efficient packet forwarding.
- Reviewing recent advancements and challenges in SDN technologies such as programmability, flexibility, and control-plane centralization, highlighting areas for further research and practical implementations.

Software Developer Intern   April 2024 – August 2024
@MindHome   *Remote*

- Worked on updates and enhancements to the company website, leveraging React for web application portions and React Native for mobile optimizations.
- Collaborated closely with a team of interns to develop and refine React application projects, enhancing project outcomes through effective teamwork.
- Gained foundational skills in robotics programming by engaging with Linux and Python, gaining practical experience in developing and testing automated solutions.

TECHNICAL SKILLS

Programming Languages: JavaScript, TypeScript, SQL, Python, Java, C++,
Web Technologies: React.js, Next.js, Node.js, GSAP, Tailwind CSS, Three.js, HTML, CSS, Hooks API
Database Technologies SQL, MySQL PostgreSQL, MongoDB, Redis
Software and Tools: MATLAB, RStudio, TensorFlow, PyTorch, Pandas, NumPy, GitHub, Microsoft Office, Excel,