Joshua Zhang

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WORK EXPERIENCE

Department of Homeland Security   Jun. 2023 – Present
Intern   *Washington D.C.*
- Developing Geographic Information Systems with USSS geospatial development teams.
- Collected comprehensive business requirements and conducted rigorous testing of developed products using Cypress.

PROJECTS

Racketeer Games Blogsite
Web Development
- Used a Nuxt, Tailwind, & Firebase stack to develop a blog site with User, Likes, Read/Post, and commenting features.
- Used TipTap to construct a WYSIWYG editor with text, video, and image formatting options, similar to Google Docs.
- Designed and implemented a dynamic tag system with auto-fill functionality, enabling selection from existing tags or creation of new ones, while facilitating efficient post search by tags.

Identifying NEOs using Machine Learning
Machine Learning
- Used Tensorflow to identify 40+ Near Earth Objects (NEOs) within NASA's WISE database via an image subtraction technique that identified movement within different photos.
- Used Python to scrape 10GB+ of NEO image data from the NASA WISE database.
- Generated synthetic images of NEOs to train the model.

FFA Chess
Web Development
- Used Socket.io and Express to connect many clients to a singular game of chess.
- Developed a chess application utilizing ES5 Node.js, employing a modular and scalable codebase.

EDUCATION

Incoming Student @ University of Washington   Sept. 2023 - Jun. 2027
Bachelor of Science in Electrical Engineering   *Seattle, WA*

Monta Vista High School   Aug. 2019 - Jun. 2023
GPA: 3.9, SAT: 1550

TECHNOLOGIES

- **Languages:** Javascript, Python, Java, C++, SQL, HTML/CSS, Bash
- **Frameworks:** Nuxt 3, Vue 3, React, Preact, Next, Tailwind, TipTap, Tensorflow, PyTorch
- **Developer Tools:** Git, VSCode, Visual Studio, Microsoft Azure, Firebase, Eclipse, Burp Suite
- **Libraries:** Pandas, NumPy, Matplotlib, Scikit-Learn, SciPy, Seaborn, BeautifulSoup
- **Awards:** USAPhO Semifinalist (2021-2022), National Cyber Scholar (2022-2023)