

ZANE SCHENK

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🌐 <https://zaneschenk.com>

TECHNICAL SKILLS

Programming Languages: Python, Java, C#, HTML, CSS, JavaScript / TypeScript, SQL, C / C++, MATLAB, Lua, Swift, Dart

Technologies and Tools: AWS, Docker, Node.js, PostgreSQL, MariaDB [MySQL], Redis, Linux, Apache, Nginx, Postman, Express, Flask, Nuxt / Vue, Electron, Koa, Bootstrap, .NET, Maven, JEST, JUnit, NATS, MVC, Semgrep, OpenCV, JavaFX, NumPy, Numba

Software Engineering: Full-Stack Development, API Development, Data Structures + Algorithms, OOD/OOP, CI/CD, DevOps, Cloud Infrastructure, Unit Testing, Source Control [Git/GitHub], OAuth, Agile / Scrum, JIRA, Optimization, Database Administration, Deployment, Hosting, Networking

PROFESSIONAL EXPERIENCE

Software Engineer - Fox Corporation, Tempe, AZ

[Jun 2024 - Jan 2025] | [Mar 2025 - Present]

- **Full-Stack development on a project under NDA**, leading the development of a cross-platform Electron app built with Node.js, utilizing WebSockets for real-time communication and a reactive UI for enhanced user experience
- **AWS deployment**, secret management, and configuration of app build and code-signing keys
- **CI/CD workflows using GitHub Actions** for automated deployment of services and applications
- **Led E2E design and development** of a central load-balancing API application and comprehensive test suite utilizing Express and WebSockets, to be used by Fox operators for managing live on-air content playlists
- **Developed a JavaScript raw packet decoder for the SMPTE 2110-40 ANC standard**, contributing to improved data handling and processing capabilities for broadcast workflows in real-time
- **Created a JavaScript closed-caption encoder and decoder for EIA-608 Packets** for dashboard reporting and visualizations
- **AI model integration** via Hugging Face and AWS for real-time caption processing
- **Utilized Semgrep** to ensure code security and integrity, while maintaining scalability and security protocols

Software Engineering Intern - Fox Corporation, Tempe, AZ

[Sept 2023 - Jun 2024]

- **Engineered a solution for migrating and managing Fox's global DCIM** and optimized 2000+ lines of code to improve API efficiency and readability through design patterns and custom libraries
- **Collaborated with IT and Cloud teams** to develop pipelines for AWS deployment
- Developed data analytics tools to visualize XML data from Fox network broadcast content

Lead Full-Stack Development Intern - DEXTERS Lab [ASU Research Group], Tempe, AZ

[Aug 2023 - May 2024]

- **Led E2E development of a full-stack web app** for ASU's Dwarf & EXoplaneT Exploration Lab, migrating a computational engine to a Flask API that reduced runtime by 80% and made research tools publicly accessible
- **Designed a self-generating PostgreSQL schema and automated ETL** for thousands of atmospheric models using Python
- **Launched the DEXTERS Lab website** via GitHub Pages and Ubuntu, optimizing SEO to increase visibility and engagement

PROJECTS

zyBot: Full-Stack Application Development + IT

[Jun 2022 - Present]

- **Developed a Discord bot stack** with an interactive user XP system, virtual pets, over 30 commands and **hundreds of users**
- Integrated Discord and third-party APIs including Riot Games
- **Implemented cybersecurity measures** including SQL injection prevention and **proprietary credential hashing**
- Automated database setup and structure verification for MariaDB using adaptable and prepared SQL queries
- Created utility functions and scripts to handle **stat recalculations, dynamic element reconnections, and DDNS management**
- **Designed a secure Flask API and dynamic website** that use Discord's OAuth to provide users with a management dashboard in addition to account statistics and functionality documentation
- **E2E development and hosting of zyBot, zyBot API, and <https://zybot.xyz/>**

EDUCATION

Master of Science (M.S.) - Computer Science

[Jan 2025 - TBD]

Arizona State University, Tempe, AZ

Bachelor of Science (B.S.) - Computer Science

[Graduated: May 2024]

Arizona State University, Tempe, AZ

[Honors: Summa Cum Laude]