ALEX J. SHIN

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EDUCATION

Yale University, New Haven, CT Expected Graduation May 2025

Bachelor of Science in Electrical Engineering and Computer Science, GPA: 3.85/4.0

- *Activities:* Yale Club Water Polo, Yale Climbing Team, Engineers without Borders, Yale Politic (Tech Team), Yale Computer Society, Yale Entrepreneurial Society

WORK EXPERIENCE

Chick-fil-A Software Engineering Summer Intern: *Digital Enablement Team: Tools Team* **May 2023- Aug 2023**

- Developed Full-Stack API-server to track internal tool usage metrics. Developed Fast-API backend server to receive data/post requests from internal tools. Designed/implemented packages/clients in Python and Go for tools to import to handle HTTP requests to DynamoDB + scripts to trigger webhooks. Began developing React.js frontend to be deployed in Backstage. Deployed server utilizing Docker containers and orchestrated deployment in Kubernetes. Used AWS Cloudwatch, API-Gateway, AWS Lambda to deploy other cloud-based solutions to improve work efficiency.
- **Skills Used**: Fast-API, Docker/Kubernetes, AWS (Cloudwatch, Lambda, API-Gateway, Dynamo), Go, Poetry, Python

Undergraduate Learning Assistant (ULA) **September 2023 - Present**

- Learning Assistant for CPSC 223 (Data Structures and Programming Techniques). Helped students with programming assignments involving data structures (arrays, stacks, queues, lists, trees, heaps, graphs), sorting and searching, storage allocation and management, data abstraction, efficient programing, and testing/debugging in C and C++.

The Yale Politic: Frontend developer **October 2021- May 2022**

- Worked with the tech team for the Yale Politic newspaper on the frontend program and design for The Yale Politic website. Developed and deployed primary user interface functions: scrolling article boxes, "read more" buttons linking to articles and pages, navigation, and dropdown menus (+ general graphic design/UI). Deployed website to over 6000+ Yale students.
- **Skills Used**: React.js, Node.js

DeepMedia AI: *Software Engineer Intern/Video Editing Intern* **June 2022 – September 2022**

- Coded, tested, and designed the layout and functionality of the Universal Translator (UT) and Dubsync webapps.
- Primary Projects: Implemented a waveform generator in python for audio files in the backend database for Dubsync to visualize spikes in audio to aid in media framing and dubbing synchronization. Also worked on frontend organization and design for the UT. Led to faster framing, transcription, and translation of video files.
- **Skills Used**: React.js, Node.js, AWS, Python

ACTIVITIES/PROJECTS

HTTP/1.x Protocol + Web Server Implementation **October 2023**

- Developed an asynchronous HTTP/1.x web server in Java, adhering to RFC9112, enabling efficient handling of concurrent HTTP requests across multiple domains using a single IP address. The server leveraged async I/O with multiplexing loops, providing high throughput and low latency.

Shutter Interactive Data Visualization Website **December 2022 – May 2023**

- Created interactive visualizations using data collected over two 3-week deployments on Yale's campus from Shutter, a robot photographer. Used plotly, matplotlib, numpy, and SciPy python packages in Juypter Notebook to create interactive 3D visualizations of Shutter. Used React.js/Chakra UI to create a fully-frontend interactive website to aid in research and analysis of shutter data (spatial patterns of behavior and ~100 different social (verbal + non-verbal) interactions) – see source code at: https://github.com/alexjshin/shutter_web

Compiler in C **September 2022 – October 2022**

- Was given code for front-end compiling - implemented middle-end and back-end. The middle-end implementation optimizes and transforms the IR generated from the front-end and the back-end implementation generates machine code in x86_64 assembly with the AT&T syntax based on the IR.

SKILLS

- **Languages**: English (native), Korean (native)
- **Frameworks and Tools**: Flask/Django/Fast-API, XML/HTML/CSS, Javascript, React.js, Node.js, Express.js, PostgreSQL, DynamoDB, RDS, Jupyter Notebook, VBA, Excel, Github, Arduino, Adobe Premiere/Photoshop, Microsoft Office, LaTEx
- **Industry Knowledge**: Amazon Web Services (AWS), Kubernetes, Object Oriented Programming, Web Development, Databases/SQL, Software Development, Github (version control)
- **Programming Languages**: Python (6yrs), Java (4yrs), C++ (2yrs), C# (2yrs), C (2yrs), Linux (2yrs), JavaScript (3yr), React (2yr), Flask (2yrs), Django (2yr), SQL (2yr), R (1yr), x86-64 assembly, Verilog (1yr)