

Andrew Zah

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Employment

Software Engineer – Open Source Systems | Jan 2018 - Present

Note: The projects below are under Non-Disclosure Agreements.

OSSYS Internal Project | February 2020 - Present

- Maintaining docker images in a scalable fashion with S6 to fix various docker issues. **(Docker, S6, Packer)**
- Working with threads, cpu cores, and synchronization primitives to create safe, multi-threaded tools. **(Rust)**
- Utilizing distributed locking systems to guarantee ownership across many nodes. **(Redis, Consul)**
- Implementing scalable logging and metrics systems to analyze usage and issues. **(Tokio, Influxdb, Kibana)**
- Architecting highly available, crash-tolerant software for our kubernetes cluster. **(Typescript, Golang, Rust)**
- Designing CLI tools for developers and downstream users to interface with various APIs. **(Rust, Golang)**
- Using Kanban and Github Issues to manage monthly deliverables. **(Planning, Communication)**
- Extensively and programmatically documenting APIs and tooling for developers and users. **(Technical Writing)**

U.S. Air Force Consulting Project | August 2019 - Present

- Working with government officials to deliver monthly and quarterly milestones. **(Communication, Planning)**
- Building and coordinating tooling for bulk data ingestion in a scalable manner. **(Docker, Kubernetes)**
- Packaging machine learning models and creating an API wrapper. **(Python, Pip)**
- Building lean, efficient Dockerfiles for JupyterLab with various kernels. **(Bash, Docker)**
- Automated deployment of statically generated documentation. **(Docker, Traefik, Python)**
- Adding Login.gov authentication support to JupyterHub and JupyterLab. **(Python)**
- Adding Login.gov authentication support to Caddy, Traefik, Goth, and Gitea. **(Golang)**

Payroll & Taxes Software | October 2018 - July 2019

- Communicated with Client to deliver weekly and monthly milestones **(Communication, Planning)**
- Modernized a legacy codebase. **(C#, .Net Core, webapi2)**
- Added tests across the board. **(Unit Testing, Integration Testing)**
- Refactored ancient SQL queries to be more performant. **(SQL, MS SQL Server)**

U.S. Navy System Monitoring Software | July 2018 - November 2018

- Built an API server around Facebook's OsQuery to analyze system vulnerabilities. **(Ruby/Rails, Sidekiq)**
- Automated deploying clients to various systems for testing. **(Ansible, Docker)**
- Created notification systems for various OsQuery alerts. **(Ruby, SQL)**
- Added API documentation, and automated as much of it as possible. **(Docker, Technical Writing)**

Medical Display Software | January 2018 - July 2018

- Took over maintaining a project from another software team. **(Ruby/Rails)**
- Added unit tests and integration tests with mocking. **(Unit Testing, Integration Testing, FactoryBot)**
- Built tooling to automatically generate PDFs for downstream users. **(Ruby)**
- Worked with doctors to display complex testing data via graphs and charts. **(D3.js, Chartkick)**

Sales and Software Developer, TwoCrafters

June 2016–December 2017 | Columbia, SC

- Worked at Arts and Crafts Festivals (similar to trade shows) selling products to potential customers.
- Communicated with festival organizers and juries in order to get into festivals. **(Business/Technical Writing)**
- Introduced an online store to grow the business.

Audio Engineer, University of South Carolina – School of Music

September 2015–May 2016 | Columbia, SC

- Worked with artists to record and manage their performances. This included the arrangement of microphones, preparation of instruments, and so on. **(Communication, Planning, Pro Tools)**

Rails Software Developer - University of South Carolina – Manga Department

February 2015–June 2015 | Columbia, SC

- Maintained an existing code base and redesigned the upload process to be easier to use. **(Ruby/Rails)**
- Utilized Amazon S3 buckets and image compression algorithms to efficiently store and display artwork.

Open Source Projects (Maintainer)

hangeul-rs: A lightweight Korean syllabary manipulation library. **(Rust)**

- Adds convenience methods for dealing with Korean 한글, in a safe manner.

korean-numbers: Converts numbers into 한글, for both the Pure and Sino-Korean number systems. **(Rust)**

- Created an algorithm to convert a number into the corresponding 한글.
- Used comprehensive unit testing to ensure correctness.

andrewzah.com: A Virtual Private Server that hosts services programmatically. **(Linux, Docker)**

- Automated hosting and deploying personal services using Docker and Docker-Compose.

Open Source Projects (Contributor)

Hugo: A static site generator. **(Golang)**

- Communicated with the project maintainers and other contributors to extend Hugo’s AsciiDoctor support.
- Overhauled Hugo’s configuration for AsciiDoctor to support allow-listed defaults.

OWAPI: An API wrapper that provides data for *Overwatch*, published by Blizzard Entertainment, Inc.. **(Python 3.5+)**

- Receives **1.7 million** requests per month, with multiple gaming communities using OWAPI.
- Used lxml to parse data and return clean user information through new API endpoints.
- Architected the JSON data response format for API version 2, for user ease of use.

Education/Coursework

University of South Carolina, Columbia | Columbia, South Carolina

- Media Arts, B.A.

Graduated: May 2016

Cognate: *Acoustic Engineering* | Focus: *Sound Design*

Achievements

Founder - Heart of the South: A tournament series held in the Convention Center in Columbia, SC

- Handled the logistics of running several tournaments with 200+ people in total. **(Leadership, Logistics)**
- Communicated with businesses and organizations to promote and sponsor. **(Business/Technical Writing)**
- Developed a website to handle pre-registration and tournament details. **(Ruby/Rails)**

Skills/Hobbies

Languages: English–Native, Korean–Intermediate, German–Basic

Clubs: Korean Club, German Club