Albert "AJ" Snow

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Education

Kansas State University *(2019)* *Bachelor of Science in Computer Science (3.8 GPA)*

Work Experience

Backend Engineer 2022 - 2023
Peerspace

- Operated in several Clojure and JS (Node.js + Express) microservices which utilized MongoDB storage and GCP hosting
- Led team initiatives to implement requested features for top clients
  * For example, calendar sync, resulting in 30% initial adoption and positive post-release feedback via CX team
- Facilitated communication between services via two primary communication protocols
  * Direct calls were handled through REST APIs
  * Async calls leveraged Google's Pub/Sub architecture; typically to persist data in time-insensitive case
- Interfaced regularly with Kubernetes and Docker systems to deploy software images for testing and software releases
- Collaborated with teammembers to create and scope design documents for new and legacy features
- Enhanced and standardized development environments via various initiatives (e.g. documentation, tests, dev configs)
- Optimized, refined, and standardized MongoDB schemas to accommodate new feature development
- Debugged complex issues involving multiple over-the-wire processes across the system (e.g. when inconsistent data fired faulty events)

Software Engineer 2.5 2019 – 2022
Paycom

- Perform full stack (JS/PHP) operations, including creating a backend API and writing user-facing scripts
- Utilized MVC style framework, OOP style design, and software was regulated (ISO 9001:2015, SOX, PII)
- Lead initiative to design a new core feature on our team that added ability to customize *all* fields on company position; widely adopted by clients after release
- Expand various module features by adding data customization, new workflows, and new api routes
- Pushed performance improvements via code optimization, query aggregation, and ORM optimization (e.g. 100x speeds)
- Create DB designs based on feature requests and employ various data modeling and software design techniques
- Redesign the code structure in various parts of my code domain (e.g. refactoring code from 1k lines to 200)

Assistant Instructor - Intro to Computer Science 2017 - 2018
KSU

- Provided mentoring to students, offering guidance on assignments, debugging, and best coding practices.
- Graded student projects, offering constructive feedback to enhance code quality and problem-solving skills.
- Held regular office hours to address students' questions, clarify concepts, and discuss software design.
- Shared insights to instructor about student progress, feedback, and contributed to curriculum improvement.

Software Developer Intership Fall 2018
Xpansion

- Completed comprehensive Java projects utilizing core MVC and OOP concepts such as ploymorphism and inheritance
- Worked with company mentor on writing software automanted testing frameworks
- Observed mentor's team sprint meeting and discussed project focus, goals, and implementation

Instructor - Computer Science - K12 Summer 2018
codeConnects

- Offered guidance and counceling to students learning basic programming fundamentals in a summer program

Apartment Custodian Summer 2018
KSU

- Coordinated with a team members to perpare apartments for new residents quickly and throughly

Engineering Custodian Winter 2017 - 2018
KSU

- Coordinated with maintenance team to complete various aspects of building upkeep

IT Technician 2015 - 2017
KSU

- Diagnosed and resolved computer-related issues, ensuring seamless functionality and optimal user experience
- Coordinated IT tasks with team members, streamlining operations and timely resolution of technical challenges
- Cultivated positive rapport with management and clients, achived high satisfaction reports from clients

Line Cook 2015
Cookies / Mema's

- Delived food service in a timely manner under various levels of rush
- Performed regular maintenance on workspace including cleaning, inventory, and preping

Projects

Personal Website *(CLJS, Fulcro)*	*A personal website using ClojureScript and the Fulcro framework for personal use*
Spring Boot State Machine *(Java)*	*Exploratory project to grok the Spring Boot framework; uses H2 and REST API*
Utility Functions Library	*Repo for experimental code concepts meant to be transferable between languages*
Order State Machine *(C++)*	*Example CLI state machine to experiment with core ETL concepts in C++*
Hotshot *(CLJS)*	*Basic API to solve a fun math case; utilized Calva for Interactive Programming*
Thermal Modeling *(Python)*	*College concurrency project; helped Graduated student parallelize modeling code*
Game Jam Unity Project *(C#)*	*Small game built by me in a weekend featuring lightbulb-themed puzzle platforming*
Modded Minesweeper *(Python)*	*Minesweeper but I added a feature to subtract numbers based on flagging*
Mobile App, Android *(Kotlin)*	*Simple app made from scratch to experiment with the Kotlin language on Android*
Snake *(Rust)*	*Built snake in Rust for exposure and to experiment with Rust's graphical libraries*
Flower Website *(CLJS/TS/JS)*	*Extra credit College assignment; wrote a website in three different JS languages*
2D Roguelike Tutorial *(Unity)*	*Involved tutorial demonstrating how to create a 2D rouge-style game*

Contributions

Fulcro Template | *Added the ability to compile and deploy a prod ready uberjar finished projects.*

Technical Experience

Languages: Clojure, JavaScript, PHP, Java, C#, Rust, Python, C++

Tools/Frameworks/Libraries: Node.js, Express, MySQL, MongoDB, Docker, GCP, React, Kubernetes, Spring Boot, JUnit, H2

Skills: Software Architecture, Database Design, API Design, Project Modeling, Algorithm Analysis, CI/CD, MVC, Functional-Programming, Microservices, ETL, OOP, TDD

Accomplishments

A list of things to keep note of that I think are pretty cool.

- Utilized a assessment to flesh out what is essentially a kind of implementation of patttern matching in java; very happy with the results
- Made a demo state machine to *really* dig into spring boot framework
- Made a utility-functions repo as a primary placeholder for all the interesting software design concepts I come up with in my career
- Learned a bit about asp.net and C-sharp from their online documentation
- Learned a bit about angular
- Started exploring Spring Boot framework
- Learned about python APIs via flask
- Wrote a C++ state machine. Not optimal in terms of performance, but had some interesting data structures.
- Learned about calva; which makes interactive programming neat.
- Moved to Chicago; a hard decision since it would be moving away from friends and family

- Learned about .dotenv; super useful for mocking environments. Learned a little bit about microservices; they're pretty complicated. They do a lot of nuanced over the wire discussions that make tracking code flow difficult.
- Co-wrote calendar sync; learned about ics file types. Discovered that there's an interesting infinite loop problem with bi-directional syncing in calendar applcations. Also learned about mocking design documents for systems.
- Re-made the website in Fulcro; probably one of the hardest things I've ever done
- Made a website in vanilla ClojureScript
- Adding mapping relationship to code to implement field customization for our team's core feature; the wizard
- Made the SPA which refactored a bunch of manually written code into a single loop. Brought 1k lines down to 200.
- Made that first page to add data at Paycom. It was a good first learning experience.
- Made an android app in kotlin
- Learned how to write snake in Rust
- Made a website for a colege course in JS; typescript; and clojurescript
- Also passed Algorithm, Data Structures, and that logic class with Roby
- Passed 300, that class was hard
- Game Jam Project
- 3.8 GPA from college
- Graduated College
- High School Graduation
- Read philosophy for dummies (the most important acomplishment?)
