Avi Flax

Experienced full-cycle software engineer

▼ Objective

What kind of work I want to do

- Hands-on
- Full-cycle (design[1], testing, implementation, documentation, deployment, operations, maintenance, etc)
- Highly collaborative (with co-workers, users, customers, etc)
- Leading by example
- Mentoring and supporting co-workers

On what kind of software

- Anything with a **direct positive impact** on **the energy transition**

At what kind of org

- Mission-driven
- People-first
- Committed to diversity & inclusion
- Enshrines kindness as cardinal
- A shared understanding that candid and timely critisicm/feedback is a gift
- Shares knowlege via artifacts (documents, pages, tickets, etc) rather than conversations (email, chat, verbal)
- Invests in stability, sustainability, reliability, etc.
- Regularly reassesses and revises processes and policies
- Uses better tools[2]

▼ Experience

2023–2024
Principal Software Engineer at Psychological Capital

- Designed, implemented, and shipped an internal tool for rapidly testing many variations of LLM invocations
  - stack: Google Sheets, Google Apps Script, JavaScript
- Designed, implemented, and shipped a SaaS product to enable non-experts to craft, test, and use LLM prompts with multiple LLM providers
  - stack: PostgreSQL, Clojure, htmx, Docker, GitHub Actions, Render

2022–2023
Staff Software Engineer at Latacora

- Designed and implemented:
  - A system that manages access to many AWS accounts via AWS SSO and Pulumi
  - A system for deploying multiple tools to many AWS accounts via Pulumi
  - A custom database for crucial business data
  - CLI tools for exporting and importing that custom business data to/from other tools and systems such as Fibery and JIRA
- Technologies, techniques, and tools employed:
  - AWS (ECS, IAM, Fargate, S3, Secrets Manager, SSO)
  - Clojure
  - GitHub Actions
  - Pulumi

2020–2021
Senior Director of Technology at Modern Energy

- Helped bootstrap a new Retail Energy Provider (REP) in Texas' ERCOT market
- Automated wholesale energy trades for a few different markets via APX MarketSuite
- Helped bootstrap a new HVAC optimization startup by integrating with InfiSense and MelRok
- Technologies, techniques, and tools employed:
  - Apache Airflow
  - Apache Kafka
  - AWS (ACM, ECS, IAM, Fargate, Lambda, MWAA, R53, RDS, S3, Secrets Manager)
  - Clojure
  - Confluent Cloud
  - GitHub Actions
  - JSON Schema

- Pulumi
- Python
- TypeScript

2017–2020
Principal Software Engineer at Funding Circle

- Drove an initiative to level up the documentation and knowledge sharing culture/practices of a ~250-person software product development group
- Took point on designing and implementing a useful information architecture for the corporate wiki
- Conceived, developed, released, and maintained the FC4 Framework, an open-source framework for authoring, publishing, and maintaining software architecture diagrams (includes a CLI tool written with Clojure)
- Worked on improving organizational effectiveness; e.g. communication channels, practices, etc.
- Technologies, techniques, and tools employed:
  - Clojure
  - Ruby
  - JavaScript (with Node.js)
  - Docker
  - CircleCI
  - GitHub Actions
  - Docs as Code
  - Confluence

2016–2017
Principal Software Architect at Park Assist

- Facilitating the company's transition from execution phase to growth phase
- Increasing collaboration and cohesion of the engineering team
- Establishing roadmaps for all systems
- Designing, building, and operating:
  - streaming data pipelines conveying data from sites around the world to a central data center
  - stream data topologies using Kafka, Kafka Streams, Kafka Connect, JRuby, and Clojure to effect high-throughput and low-latency data-centric applications
- Driving adoption of:
  - infrastructure-as-code, configuration management, and immutable infrastructure with Terraform, Ansible, CircleCI, AWS, and Kubernetes
  - consistent conventions around testing, documentation, code review, and continuous integration
- Operating services with Terraform, Ansible, AWS, and Kubernetes, Datadog, Slack
- Defining and executing new approaches to:
  - engineering support
  - team structure
  - hiring
- Create a culture of caring about sustainability, documentation, and maintainability
- Introducing and championing new:
  - development tools: GitHub, Terraform, CircleCI
  - company-wide communication media: Slack, Discourse
- Mentoring those new to software engineering

2015
Timehop

- Refactored a critical and complex system into a loosely-coupled stream-based system using Kinesis and Go (slides)
- Designed and implemented sophisticated integration with Twilio for SMS-based signup
- Designed and implemented a large-scale data processing tool to process billions of records very quickly

2014
Thinkful

- Designed and implemented an event-driven system to automate Stripe subscription management

2013–2014
SFX Entertainment

- SFX acquired Arc90 in 2013 to be its internal app design and development group
- I initially adopted the title CTO, then recruited someone amazing to replace me and shifted to *Chief Sofware Architect*
- I helped design and build an ambitious new-from-the-ground-up streaming music platform and integrate it with existing products

- I helped shape the organization by helping craft its structure, practices, culture, goals, communication, and approach
- I recruited key personnel

2005–2013
Arc90

- Arc90 was a Web application design & development consultancy; it was acquired by SFX Entertainment in 2013
- Wore many hats: developer, architect, team leader, partner, director
- Worked with teams to design, build, and maintain sophisticated software platforms, including:
  - A Web/SOA insurance platform covering all key aspects of policy origination and management
  - A Web-based search engine and reference platform for engineers
  - An API at the heart of a new-from-the-ground-up news distribution platform for Reuters
- Conducted technical audits of clients' acquisition targets
- Helped manage the business as a partner
- Managed client relationships
- Invested much time and effort in recruiting and retaining exceptional team members
- Started practice of regular company-wide code review

2001–2004
ADP

- Refactored, enhanced, and maintained a sophisticated application for producing custom financial documents for on-demand printing

2001
Register.com

- Team lead position for large high-traffic auction site
- Responsibilities included designing, implementing, and maintaining features; and reengineering site technology and architecture
- Created new internal tools and development procedures

2000
RewardsPlus

- Maintained and enhanced a large-scale online employee benefits enrollment system for diverse clients with diverse needs

1998–2000
Words In Progress

- Developed requirements and specifications for high traffic websites directly with clients; crafted application architecture and database design

1998
Ideal Computer Strategies

- Worked with teams of designers, coders, and project managers to concurrently develop and deploy client websites with basic dynamic features

1997–1998
PCC Internet Design

- Founded and managed a small web design shop in Pikesville, MD providing full-service web design and development to small companies in the Baltimore area

▼ Values

I believe that:

...diversity and inclusion are crucial *and* create rich, healthy, sustainable, productive organizations.

...DRY and the Rule of Three apply to docs just as much as code.

...people can only do great work if they are healthy, growing, supported, and respected.

...all great processes have one thing in common: they are regularly reviewed and refined.

...the most important aspect of any technology is its potential to solve problems.

...technology is a phenomenally powerful tool that we humans have at our disposal to solve problems — if we so choose.

...we do some of our best thinking in collaboration with others.

...institutional/communal memory is critical to building sustainable organizations.

▼ Key Skills

- Problem analysis
- Software design, architecture, construction, deployment, operation, and maintenance
- Deep expertise in the World Wide Web and HTTP
- Web API design & development
- Product design
- Data architecture & data engineering

- Documentation
- Docs as Code
- Infrastructure as Code
- Information architecture
- Optimizing developer productivity via automation and documentation
- Continuous Delivery (CD) pipelines and automation
- Team/organizational leadership
- Assessing and improving organizational effectiveness
- Organizational architecture

See also Additional Skills & Technologies below.

▼ Key Technologies

- Apache Airflow
- Apache Kafka
- Amazon Web Services (AWS)
- AWS Lambda
- Clojure
- Docker
- GitHub Actions
- Java
- JavaScript
- Pulumi
- Python
- Ruby
- Terraform
- TypeScript

▼ Additional Skills & Technologies

- Amazon Athena
- Amazon DynamoDB
- Amazon Elastic Container Service (ECS)
- Amazon Kinesis
- Amazon Redshift
- Amazon Relational Database Service (RDS)
- AWS Fargate
- Behavior Driven Development
- Browser APIs
- Business analysis
- CircleCI
- CoffeeScript
- CouchDB
- Datomic
- Database (DB) Design
- Django
- ElasticSearch
- Flask
- Go (Golang)
- Groovy
- Information architecture
- Kubernetes
- Markdown
- MongoDB
- Node
- OmniGraffle
- PostgreSQL
- Presto
- SQL
- Solr
- Stripe
- XML/XSL/XSD/XQuery

▼ Examples

Most of my work is proprietary and private; this selection of things I've managed to release publicly doesn't represent my full skillset.

March 2021

- Built and launched the website `ny.vax.help` to help people get appointments for COVID-19 vaccines in New York State (project repository)

2020

- Delivered Set your data free with model-based architecture diagramming at Write the Docs (Portland) 2020

2019

- Delivered a talk entitled (Architecture) Diagrams as Data at Clojure/conj (video)
- Presented Data Driven Diagramming at Clojure/nyc
- Posted Conference Highlights: Write the Docs (Portland) 2019

2018

- Presented Concurrency via Communication — Large and Small at the Bay Area Clojure Meetup (hosted by Funding Circle)
- Released the FC4 Framework, an open-source framework for authoring, publishing, and maintaining software architecture
- Built github-tools, a toolset for working with GitHub in a large org with many repos
- Released Learn You Some Kafka! — atomic, bite-size, highly-focused interactive tutorials that teach how to work with Kafka using Ruby or Clojure
- Presented Large Nested JSON with Spec: A Comedy of Errors at the Bay Area Clojure Meetup (hosted by Funding Circle)

- Presented Specifying Other People's Data Structures with Spec: an Experience Report at Clojure/nyc

2017

- Published Kafka Summit 2017 Talk Proposal

2016

- Prototyped Omnia, a system to search multiple document silos at once
- Published Strange Loop 2016 Recap (blog post)

2014

- Released Three Things, a client-side Web app (backstory involving Jeff Atwood)
- Presented The impedance mismatch of Web Microframeworks at PyGrunn 2014 (hosted by Paylogic, a subsidiary of SFX)
- Started collecting resources for learning stream processing
- Designed GitHub Digests, a system to aggregate GitHub notifications into daily email digests

2013

- Published Resourceful, a Clojure library that provides a more concise and more RESTful alternative to declaring routes.

2012

- My last major project for Arc90 was to build a new platform for reuters.com:
  - I created a diagram of the overall architecture of the "Reuters Next" platform
  - I was asked to review a draft of the API spec; I provided these notes
  - I developed a document to capture the culture and process of my team, so we could ramp new members up quickly and effectively
  - I determined that the API codebase I had inherited needed to be refactored, and wrote this summary to explain why
  - When I left the project I shared my parting thoughts with the team
- I sometimes perform technical audits of existing applications or platforms. Here's one example; I can provide more extensive examples upon request.

I'd be happy provide more examples of my work, such as architecture diagrams and presentations, business analysis, code, etc. Please get in touch!

▼ Around the Web

- Microblog
- Bookmarks
- Instapaper
- Stack Overflow
- GitHub
- Slide decks

▼ Hobbies

- Cycling
- Hiking
- Reading
- Video games

Contact Me

Thanks for scrolling all the way to the bottom of my résumé! I appreciate your interest. At this point, you might want to get in touch. Please do!

work@aviflax.com

I'm based in White Plains, New York. I prefer to work as part of a mostly or fully distributed team, but I'm open to working from an office in the NYC area 1–3 days per week, depending on distance.

PDF Version

If you'd like to e-mail this résumé, or add it to your applicant tracking system, you're welcome to use the PDF version.

Notes

1. Whereby "design" I mean "the creation of a plan or convention for the construction of an object, system or measurable human interaction" (source) — or, more succinctly, "design is how it works".
2. For example:

Popular Tools	Superior Alternatives
Jira	Linear, Shortcut
Slack, Discord	Discourse
JavaScript, PHP, Python, Ruby	Clojure, ClojureScript
MariaDB	PostgreSQL
Terraform	Pulumi
Google Docs+Sheets, Confluence	Airtable, Coda, Fibery, Notion
Google Drawings, OmniGraffle, Visio	Excalidraw, tldraw, Whimsical
Google Slides, Powerpoint	Deckset, iA Presenter, Pitch

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