

Avi Flax

Software Developer

▼ Objective

A position designing¹, building, documenting, operating, and maintaining software systems in close collaboration with my team and stakeholders.

▼ Experience

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 Software 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](#)
- [Pulumi](#)
- [JavaScript](#)
- [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.

- 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.
- 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
- 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 to 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](#)

▼ 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!

avi@flaximus.net

I'm based in [White Plains, New York](#). I prefer to work as part of a mostly or fully distributed team, but I'd be happy to work from an office in the NYC area 1–3 days per week, depending on distance.

Notes

- Whereby "design" I mean "the creation of a plan or convention for the construction of a terra-, system or measurable human interaction" ([source](#)) — or, more succinctly, "[design is how it works!](#)".

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