Joseph Spens - README

Joseph Spens - CV Not Seeking Employment

Hello world. The purpose of this document is to share an understanding of my personality, ways of working, and decision making strategies which I have developed through my career.

I am self-driven, passionate, and both willing and capable to branch into new disciplines to provide the most value to my team. Those traits have yielded a T-shaped engineer with a breadth of experiences creating alignment across roles in an R&D organization, while at the same time a depth of experiences as an individual contributor.

Who I Am

I am first and foremost a **software architect** passionate about finding ways to efficiently write higher quality software.

Through that passion I have become an experienced **product engineer** with an understanding that the lines between product and engineering are often blurred, and alignment between product and technical strategies are a key component of success.

The ultimate measurement of team success is through delivery, and as an **agile developer** I coach teams across disciplines in frameworks and methodologies that systematize and simplify the process to frequently deliver high quality work.

Read more in Joseph Spens - Value Proposition

What I've Done

In Joseph Spens - Case Studies I outline a number of systems I've designed over the years, along with related initiatives that contribute to team empowerment and efficiency.

Level

At Level I designed an application data model for our customer experience teams that decoupled them from our backend data teams, **facilitated faster iteration of feature development** for the application teams, and **reduced risk of action at a distance with schema changes** for our backend data teams. This data model was identified through novel approaches to defining application features, and encoded into backend **protobuf APIs**. I then **embedded in backend teams** to push the technical debt down the stack into the data layer where a new **data model directly supported our application use cases**.

Spotify

At Spotify I designed a rights management system meant to consolidate all the recording and publishing rights known to Spotify about its catalog of **80 million tracks** and **derive licensing and market insights** for our litigation and licensing teams. We derived the initial comprehensive music domain model for our organization, prototyped multiple entity resolution systems with **Dataflow pipelines** in **Scala**, built resilient **React web applications** in **TypeScript**, layered **gRPC services** in **Java**, and robust **PostgreSQL** and **ElasticSearch datastores**.

I also designed a content annotation platform to **platformize access to ground truth training and evaluation data** for machine learning engineers and data researchers, to which we successfully provided **tens of thousands of human annotations** each month. We derived the initial comprehensive human-in-the-loop domain model for our organization, facilitated **ETL processes** through **Flyte pipelines** in **Python**, and enabled rapid development iteration of highly precise **machine learning models** through **active learning**, **transfer learning**, and measuring **training dataset quality**.

Ticket Evolution

At Ticket Evolution I designed a **snapshot ingestion system** using an **event-driven microservice architecture**. This system scaled up our capabilities to **ingest 1 billion daily records** and alleviate the top risk to the business of skipped snapshots and stale data on the platform. The new **Ruby microservices** were designed to use a **Redis cache** instead of the main **Postgres database**, which enabled them to **horizontally scale indefinitely** using an **AWS elastic load balancer**. Creates, updates, and deletes were sent back to the **Rails monolith** through **SQS queues** to be written directly to the database.

How I Communicate

Asynchronous forms of communication are best for me. It allows me to minimize context switching, prioritize my focus, and consider a response rather than provide a reaction.

- **Chat** - Slack (or an equivalent chat system) is my primary communication tool. I like to take advantage of channel organization and threads to organize thoughts and conversation. It's an easy place to store relevant links and documents.
- **Wikis** - Chat can be ephemeral so intranets and internal wikis are a great place to create a repository of knowledge.
- **Requests for Comment** - Often I like structuring or diagraming my thoughts in documents to be shared (this document being a good case in point). It's a way for me to illustrate my mental model of a concept to align with others and receive feedback from their mental models, hopefully aligning around something that works for everyone.

My approach to communicating is through **active listening**, where I listen to what you say, process it through my mental model, and repeat back what I understood. There are a number of opportunities for misinterpretation, so my goal is for you to verify my interpretation of what you just said, otherwise correct and evolve my mental model.

Things That Energize Me

- Delivery **momentum**: shipping features feels great, closing tickets feels great, ideally it happens daily
- Building **consensus** on the team, for any topic, but especially on frameworks for measuring success and plan work
- Understanding the **alignment** between our near term roadmap and our long term mission
- Identifying **mental models** for understanding a new problem domain
- Mid day **walks** around my neighborhood with my dog

Fun Personal Facts

- For 5 years I worked with NASA to organize the international Space Apps Challenge hackathon. In that time I met 8 astronauts and a number of top climate scientists, many of them at events I organized.
- I'm an open water certified scuba diver
- Both my family and my wife's family, by coincidence, hail from towns 20 miles apart in Abruzzo, Italy
- I'm a third generation software engineer, on both sides of my family
- Dog dad to two Australian Shepherd puppies
- We take regular camping trips into the Adirondacks
- We are a Disney family
- I like Tolkien-esque fantasies, and paint wargaming miniatures
- Favorite podcast is Hardcore History with Dan Carlin