JULIAN FORTUNE

Contact · GitHub · LinkedIn

Software engineer with 4 years of professional experience, expertise in leveraging functional techniques and type systems to prevent bugs, and a track record of success in environments ranging from early startups to massive enterprises.

EXPERIENCE

Amplica Labs

Software Engineer (Authentication Team) **Dec 2023 – Present**

Transferred to a back-end team working on user authentication for a social media platform (Frequency) based on an open source protocol.

- Created an end-to-end test suite for a Spring application using Playwright.
- Added password authentication support with secure salting and hashing.
- Implemented arbitrary-length prefix phone number blocking using a Trie.
- Built out a separate service for sending SMS messages with fraud-prevention logic.
- **Stack**: Kotlin, Spring, Redis, & Postgres

Software Engineer (Full-stack) **August 2023 – Dec 2023**

Hired to work across the stack and bring functional programming experience to a customer loyalty product for a French soccer league.

- Developed React components using Tailwind CSS, implemented endpoints, added front-end features, and wrote Postgres migrations.
- Mentored peers and championed usage of algebraic data types and generic typing.
- Transformed requirements into concrete technical specifications and tickets (e.g., auction system), and collaborated with the design and product teams.
- **Stack**: Typescript, React, Storybook, NextJS, and tRPC.

Disney Streaming · **Software Engineer** **June 2022–August 2023**

Recruited to contribute to a set of internal tools for AWS Kinesis, including schema registry, code generation, and producer and consumer SDKs.

- Added Python support to the code generation plugin, which outputs a custom library with classes corresponding each event defined in a given schema registry.
- Analyzed and optimized AWS usage, resulting in annual savings over $1M.
- Added features to SDK's, 'higher-level' services (e.g., snapshotter), and SBT plugins.

Agot AI

Team Lead **Jan 2022 – June 2022**

Promoted to lead the team responsible for processing videos and creating labels used for training.

- Planned sprints, conducted interviews, and tracked the team's progress.
- Doubled the rate of training data produced through process improvements.
- Advocated for strong typing, pure functions, and immutability.

Software Engineer **June 2021 – Jan 2022**

Hired to develop integrations and algorithms for a computer vision feedback system.

- Implemented microservices in Python communicating via RabbitMQ.
- Wrote Python libraries for standardizing consuming and producing RabbitMQ events, and for identifying the closest match for an order from a set of candidates.
- Started a Python lecture series to promote best practices.

Skyworks Solutions · **Software Engineer** **Jan 2021 – June 2021**

Brought on to assist the audio deep learning team by performing machine learning experiments, administering cloud resources (e.g., MongoDB and TPU instances), and writing tests.

- Created a Python library for defining weighted finite-state transducers and applying operations (e.g., composition) based on technical papers.

Lucid Software · **Intern** **June 2020 – Sep 2020**

Developed new front-end components, redesigned the paywall system to support a suite of products, and refactored endpoints and models to support front-end changes.

- Collaborated on a hand-drawn shape detection project that won the hackathon.
- **Stack**: Angular and Typescript frontend, Scala backend.

CBT Nuggets · **Software Engineer** **June 2018 – June 2019**

Joined the mobile apps team (part-time during college) to assist with fixing crashes, debugging memory leaks, implementing features, and writing tests for the iOS app.

EDUCATION

Oregon State University · 2017–2021

B.S., Computer Science (4.0 GPA)

Relevant courses: Programming Language Fundamentals (Haskell) & Deep Learning

PROJECTS

Functional-C — Statically-typed, interpreted language written in Haskell.

PaperECG — An application that digitizes electrocardiograms (ECGs) built with PyQt.

PUBLICATIONS

Real-Time Speech Workload Estimation for Intelligent Human-Machine Systems
Human Factors and Ergonomics Society Annual Meeting, 2020. Co-authored with Dr. Jamison Heard and Dr. Julie A. Adams.

Digitizing ECG image: A new method and open-source software code
Computer Methods and Programs in Biomedicine, June 2022. Co-authored with Larisa G. Tereshchenko and others.

SKILLS

- **Languages:** Python, Typescript, Scala (with `cats`), Kotlin, Swift, & Haskell.
- **Cloud:** Object storage, Postgres, MongoDB, Redis, instances, & message queues.
- **Tools:** Docker, Terraform, Gradle, & Make.