

Mel Kon

Software Engineer

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TECHNICAL SKILLS

Languages: TypeScript/JavaScript, Python, Kotlin, Java, Swift, C#, Ruby

Backend & APIs: FastAPI, Node.js, REST API v2, OpenAPI/Swagger, WebSockets, rate limiting, pagination, idempotency

Security & Auth: OAuth2/OIDC, RBAC, JWT/JWK handling, Supabase Auth & Row Level Security (RLS), web app security (CORS/CSRF/STS)

Data: PostgreSQL, Supabase (DB/Auth/Storage) SDK, Snowflake, SQLAlchemy, KQL, Pandas

Cloud & DevOps: Docker, AWS (familiar), Vercel, Firebase, Google Cloud, Jenkins, CI/CD

Frontend: React, Next.js, React Native (Expo), Tailwind CSS

AI/ML: PyTorch, scikit-learn, OpenAI Whisper, MLX, MLX-Audio

EXPERIENCE

Trivir

Sep 2023 – Jul 2025

Software Engineer, Identity & Access Management Consulting

American Fork, UT

- Rebuilt the Georgia Court of Appeals docketing/notice platform: decomposed 12 legacy Java services into Kotlin services with versioned REST endpoints and stricter contracts, improving reliability and throughput under production load.
- Containerized eDirectory test infrastructure with Docker and integrated it into CI, enabling automated IdMUnit runs and eliminating manual environment setup across projects.
- Patched ForgeRock Database Table Connector for Snowflake JDBC compatibility, unblocking migration of 250K+ Los Angeles School District identities into Ping Advanced Identity Cloud and stabilizing data sync jobs.
- Worked across authentication and authorization surfaces common to ForgeRock/Ping deployments, including OAuth2/OIDC SSO and role-based access policies; partnered with client security leads to harden token-based flows.
- Collaborated directly with product owners and agency stakeholders to prioritize backend changes and ship safely during cutovers.

Microsoft

May 2022 – Aug 2023

Software Engineer Intern (Azure HPC & Developer Division)

Redmond, WA

- Built Python pipelines on Azure HPC clusters to analyze thermal data from NVIDIA H100 GPUs used in large-scale model training, cutting tuning cycles from hours to minutes.
- Automated access-review compliance with C#, Azure Data Explorer, and Logic Apps, processing 50K+ records and eliminating manual audits.
- Shipped interactive Power BI dashboards surfacing real-time optimization insights for multiple hardware teams.

HeydayNow

Jul 2021 – Jan 2022

Machine Learning Engineer Intern

Salt Lake City, UT

- Prototyped a video search feature using Doc2Vec embeddings with sentiment tags to accelerate customer-success clip discovery; exposed FastAPI endpoints for retrieval.

SELECTED PROJECTS

USCIS Civics Exam Study App — React, Tailwind, FastAPI, Supabase

2025

- Delivered a bilingual exam-prep web app with adaptive testing and streak tracking. Backend: FastAPI v2 endpoints with OpenAPI, pagination, and basic rate limiting.
- Implemented Supabase Auth with RLS and the supabase-js SDK; protected media using signed URLs and role-based access; PostgreSQL functions for scoring and progress.
- Integrated AI/ML endpoints for Arabic audio using Whisper via a FastAPI service boundary; added retries/timeouts and request logging for observability.

MLX-Audio Text Reader — Browser Extension & macOS App

2024

- Built a local TTS system: browser extension with real-time word highlighting backed by a Python FastAPI service running MLX-Audio models on-device; packaged the service in Docker for reproducible dev/test runs.

EDUCATION

University of Utah

2019 – 2023

Coursework toward B.S. in Applied Mathematics and Computer Science

Salt Lake City, UT