Micah Katz

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SKILLS

Languages: Python, JavaScript, TypeScript, C, C++, Ansible, HTML, CSS
Frameworks & Libraries: React, React Native, React Query, Redux, MobX, Next.js, TailwindCSS, Node.js, Socket.io, MQTT, Pandas, NumPy, FastAPI, GraphQL, REST API, CI/CD
Tools: Git, Docker, MySQL, Postgres, Unix Shell, REST API, GraphQL, Kubernetes, Postman, Jupyter
Cloud Services: AWS, Azure, IBM Cloud, GCP, Kubernetes, RedHat OpenShift
AI & ML Frameworks: TensorFlow, PyTorch, HuggingFace, Keras, LangChain

EXPERIENCE

AI Software Engineer, SelectQuote   Aug 2023 – Present

- **Tech Lead for Full Stack development**, guiding the creation of websites, components, and back-end architecture, while leading task creation and delegation, as well as code review and approval.
- **Single-handedly developed an internal LLM chat interface** that allows SelectQuote employees to interact with multiple internal LLMs, allowing for custom functionality and preventing data breaches.
- **Led the development of a full-stack interface** for managing SelectQuote AI call workflows, relieving my team from manual workflow updates, **saving hundreds of Senior Developer hours per month**
- **Substituted LLM queries with multiple proprietary neural networks**, slashing call inference time from **upwards of 6 seconds to under 100ms**, significantly enhancing customer retention rates and revenue generation, while **saving thousands monthly** on LLM tokens and call duration expenses.
- **Developed a Retrieval Augmented Generation (RAG) chatbot**, integrating a corpus-driven document retrieval system with an interface for custom persistent document ingestion
- **Developed and implemented a desktop audio capture application** for support agents, integrating neural networks to facilitate real-time sentiment tracking and analysis for customers and agents.
- **Formulated a large action model** proficient in executing diverse user requests, including natural language-based **SQL generation and execution on databases**, and completion of user-specified tasks.

AI Software Engineer, IBM   Jun 2021 – May 2023

- **Engineered an advanced, full-stack call center generative AI app**, combining LLM, NLP, and STT to elevate call transcripts, FAQ handling, and virtual assistance capabilities
- **Architected and led the development** for multiple 5G Edge industry solutions built on RedHat OpenShift, a fully deployed 5G network, and different IBM products.
- **Single-handedly created a dashboard for my team** to perform CRUD on our internal website containing markdown articles, providing visibility and easy filtering on hundreds of items.
- **Implemented a draggable flowchart UI** showing internal IBM 5G systems and their statuses, along with easily showing hard-to-access data per system in a readable format, allowing my team to easily find and diagnose any issues with our on-prem 5G network that is used by notable IBM clients.
- **Scripted an internal system with Python and Selenium** that automated the extension and management of VPN users, eliminating the need for manual work from the team each quarter.
- **Utilized MQTT subscriptions and Webhooks on the Edge** to display real-time alerts for AI object detection from a camera, demonstrating the power of IBM Products for potential clients.
- **Combined and created complicated Ansible scripts into a one-click UI** that **creates a 5G slice** and deploys a **full end-to-end containerized 5G network** including 5G core and RAN components to OCP, showing the power of IBM network automation products.
- **Allowed for swapping out AI object detection models** on a simple-to-use UI that performs multiple API calls necessary to reset/add the new model, streamlining live demos of IBM products for my team.
- **Above work was used to progress client opportunities** in multiple client engagements where I presented at key industry events and were used for PoC's resulting in **multiple wins for IBM.**

Full Stack Software Developer, JamFeed   Jun 2020 – May 2021

- **Implemented new functionality** such as Google Analytics, Forgot Password, Confirm Email, Apple login, and JWT Authorization, improving the app's security, convenience, and compatibility.
- **Constructed multiple models and built a pipeline** for adding notifications, extracting artist names, and categorizing each article on the JamFeed app, eliminating the need for the co-founder to spend more than 20 hours per week on manual work.
- **Developed a custom web scraping API** as well as pages that **display news articles in a friendly format** on both the JamFeed app and website, increasing user retention drastically.

PERSONAL PROJECTS

Image Transformation Discord Bot | Node.js, Discord API, Cloudinary API   Feb 2022 – Jun 2024
Worked with the Cloudinary API to perform complex image transformations on-demand for Discord servers.

AI Video Generation UI | OpenAI API, Prompt Engineering, Node.js, FFMPEG   July 2023 – July 2023
Created a Node.js REST API with Express that creates an educational video from scratch for a given subject.

LLM Talmudic Interpretations UI | OpenAI API, Prompt Engineering, Web Scraping   Jun 2023 – July 2023
Architected a UI that uses an LLM to generate text about a selected article using web scraping and prompt injection.

UT Dallas Senior Design Project | React.js, Next.js, Prisma, MySQL   Jan 2023 – May 2023
My Team was tasked with building a website for students to find tutors and schedule appointments.

Personal Website | React.js, Next.js, TailwindCSS, GCP, Docker   Jan 2023 – Feb 2023
Created a personal website using the latest web development frameworks to showcase my projects.

Epstein Hillel School – Fire Alarm Safety Website | React.js, CSS   Dec 2022 – Mar 2023
Delivered a React.js website using an RFID scanner to show the list of people in the building on a TV.

Personal SmartHome | Apple Homekit, Homebridge, Raspberry Pi, Linux   Nov 2022 – Feb 2023
Added homebridge to my Apple home via Raspberry Pi, allowing me to connect Alexa and Google devices.

Social Media App | React Native, AWS   Jun 2022 – Present
Constructed a social media app using React Native Expo and AWS Amplify that includes full user sign-in, liking and posting, friend requests, push notifications, video streaming, upload, and auto-thumbnails via FFmpeg.

Temple Beth Elohim – Garage Security System | Arduino C, Soldering   Nov 2019 – Feb 2020
Designed a security system that required a valid RFID card to open a garage door, preventing more break-ins.

6 Points Sci-Tech Academy – Mealtimes Website | React.js, AWS   Jun 2019 – Aug 2019
Made a UI and Admin Dashboard that allowed campers to see real-time announcements via TVs, helping them to know when their table is called for lunch.

Playing Card Image Classification | Python, TensorFlow, Pandas, Kaggle   Mar 2023 – May 2023
Built a Neural Network that can tell the suit and value of a playing card for a Machine Learning class at UTD.

EDUCATION

Bachelor of Science (B.S.) – Computer Science (GPA 3.6)   Sep 2019 – May 2023
University of Texas at Dallas

Master of Science (M.S.) – Artificial Intelligence   Aug 2024 – Present
University of Texas at Austin