Kareem Arab

Full stack generalist
me@kareemarab.com
Ottawa, Canada — Remote

languages — **PYTHON — GO — SWIFT — TYPESCRIPT — LaTeX**

frameworks/technologies — **React — NextJS — iOS — Serverless — REST APIs — Webhooks — Websockets — Kuberentes — CI/CD (Jenkins, Actions, etc.) — Firebase — Terraform — Vault — Plaid**

libraries — **Tensorflow — UIKit — Tailwind — ReactQuery — PyTorch (elementary proficiency)**

cloud platforms — **AWS — GCP — Azure — Vercel**

databases — **MongoDB — Redis — Elasticsearch — Firestore — MySQL**

processes — **Kanban — Agile — Scrum**

work experience

AMADEUS — *Full Stack Engineer* — *Mar 2021 - present*

- Collaborated with cross-functional teams to plan and implement the migration of our Guest Management Solutions infrastructure from **On-prem & GCP** to **Azure**.
- Collaborated on the design and implementation of a new **Multi-Factor Authentication (MFA)** system, enhancing account security for users.
- Successfully migrated multiple services to **Rancher k8s** with caching, resulting in self-healing deployments and improved capacity and reduced database load for Black Friday.
- Designed, built and tested highly performant **APIs**.

NEUROVINE — Start up — *Software Engineer* — *Apr 2019 - Feb 2021*

- Developed secure **Serverless APIs** built on **AWS Lambda** in **Python** that drove our mobile app as-well as our research and data-science pipelines.
- Worked on low-level bluetooth communication software for our wearable EEG headset.
- Shipped a mobile app & a research portal built w/ **Ionic**.
- Worked closely with the data science team to integrate **ML** models into the platform.
- Implemented **HIPAA** compliance requirements across our systems/designs.

projects

- **PRINCIPAL** (private beta) — *React & Go + Plaid* — *present*
  - Developed a full-stack web application using a **Go REST API** and a **React** frontend.
  - Integrated with the **Plaid API** to consume real-time financial data.
  - Created a search engine using **Elasticsearch** to index and search thru transactions.
  - Implemented a caching layer using **Redis** to reduce the number of API calls to Plaid.
  - Implemented a webhook system to verify and tunnel webhook requests from Plaid to the backend where they're processed u/ Redis-backed background workers.
- Realtime group chat w/ built-in event management — *iOS (Swift) & Serverless* → — *2020-2022*
- Multithreaded HTTP Redis proxy w/ an LRU cache — *Python* → — *2022*
- Hopfield, RBF & Conv. neural network implementations — *Python & TensorFlow* → — *Summer 2020*
- Analyzing Gaussian & adversarial perturbations on a CNN's latent space → — *Winter 2020*

*More **projects** on **github**.*

research

IOT LAB @ CARLETON UNIVERSITY — *2017 - 2019*
Research assistant

- Conducted research on ML applications for Smart Grid energy systems.
- Built a real-time multi-modal data streaming system using a Rasp. Pi and IBM Cloud.
- Published two conference papers.
- Worked on a Type II diabetes self management tool project.

education

CARLETON UNIVERSITY — *Spring 2020*
Bachelor of Computer Science (BSc)

achievements

SHOPIFY — BUILD THINGS APP AWARD — *Nov 2018*
Winner of the best App award @ Shopify's Build Things App Showcase.

publications

** List of **Publications** on ***Scholar***.