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 (verification + tunnel-

ing) — Websockets — Kuberentes — CI/CD (Jenkins, Actions, etc.) — Firebase — Plaid

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

cloud platforms GCP — AWS — Azure — Vercel

databases MongoDB — Redis — Elasticsearch — Firestore — MySQL

processes Kanban — Agile — Scrum

work experience AMADEUS — Full Stack Engineer

- Collaborated with cross-functional teams to plan and implement the migration of our

- Conaborated with cross-functional teams to plan and implement the migration of ou 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 — Software Engineer

Apr 2019 - Feb 2021

Mar 2021 - present

- 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 - Realtime financial aggregation & search — *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* →

Summer 2020

2022

- Hopfield, RBF & Conv. neural network implementations — *Python & TensorFlow* →
- 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.