Arnav Paruthi

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arnavparuthi

Technical Competencies

Languages: Python, Javascript, C++
Frameworks: Tensorflow, Pytorch, Numpy, Pandas, Node.js, Google Cloud, Docker

Education

B.A.Sc. Engineering Science - University of Toronto - Intended major: Machine Intelligence
September 2021 - April 2025 • GPA: 3.83

Work Experience

Data Engineering Intern - *Munich Re (World's largest re-insurance company)*
May 2022 - August 2022

- Worked to migrate one of Munich Re's core products from Redis streams to **Kafka** leading to a **30% decrease in runtime**. Deployed the product's micro-services using **Docker** and **Kubernetes**.
- Developed an internal Python package with a handler class that abstracted away the Kafka interface. This simplified our **70+ person** team's efforts in transitioning other products to **Kafka**.
- Evaluated which Kafka Python client to use, how to deploy the Kafka broker, and rearchitected micro-services to leverage Kafka's features and performance.

Machine Learning Intern - *Zerodown (Y Combinator backed startup, $30M+ in funding)*
July 2021 - August 2021

- **Trained** a transformer based image segmentation model on **custom data**.
- Implemented a video **object tracking** ML pipeline using **Pytorch, Numpy, Pandas** and **OpenCV**.

Data-Science Intern - *Fleetops.ai*
July 2019 - August 2019

- Worked alongside the lead data-scientist to build and deploy a **knowledge graph** based **recommendation algorithm** suggesting shipments to the company's **227k truck drivers**.
- Built pipelines using **Apache Beam** to transfer data from MongoDB to Google BigQuery.

Personal Projects

Rovr - *Python, Javascript, React, Flask, Firestore DB, Google Cloud Run, Google Cloud Functions*

- Created a web application that ranks photos taken by NASA's Curiosity rover using the ML algorithm from the paper "Intrinsic Image Popularity Assessment". New photos are fetched from NASA's API daily, run through the algorithm on GCP, and rankings (on a Firestore DB) are updated.

AlphaZero - *Python, Numpy, Keras*

- Implemented Deepmind's state-of-the-art AlphaZero algorithm from scratch in Python using **Numpy and Keras.** Trained the algorithm to play Ultimate tic-tac-toe.