# **ACHILLEAS ATHANASIOU FRAGKOULIS**

## **Machine Learning Engineer**

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github.com/achilleasatha

#### **EXPERIENCE**

#### FLYR Hospitality Senior Machine Learning Engineer

math Dec 2022 - Ongoing

**♀** London, UK

- Contributed towards development & maintenance of forecasting models in production. Doubled the **forecast horizon**, ingested **exogenous features**
- Responsible for monitoring Elastic & Kibana model output, drift, data quality, KPIs and addressing triage tickets from >1,000 customers
- Productionized a cancellations model through experimentation with various architectures - XGB, GARCH, Time Series Transformers and framings
- Separated forecasting model from a monorepo and monolithic app to microservices (gRPC), CI/CD with GitHub Actions, translated models to sktime

#### **BEAT Beat** Senior Data Scientist

₩ Sep 2021 - Dec 2022

**Q** London, UK

- Designed & built a flexible & scalable experimentation platform. Leading a data team of 4 (2xDEs, DS, DA) and owning the data product
- Developed solutions for automated analysis pipelines for A/B/n, switchback experiments & hold-outs (supporting 100s metrics w. cuts - OLAP cube)
- Producers and consumers of events. Kafka for relaying BE events to the data stack and for publishing back post-pipeline processing (Spark & PySpark)
- Implemented CI/CD GitHub Actions and monitoring (Prometheus, Grafana)
- Direct management and coaching to team members for development

#### Rimo3 Machine Learning Engineer

Mar 2020 - Aug 2021

**Q** London, UK

- Prototyped a computer vision ResNet50 based solution for automated software testing
- Used tree-traversal, object detection & recognition to emulate user flows
- Deployed as a containerized micro-service endpoint (FastAPI) for a CLI tool

### Expedia Group - H Hotels.com Data Scientist

∰ Jul 2018 - Mar 2020

**Q** London, UK

- Collaborated with cross-domain ML teams to design, set up & analyse experiments (image classification & scoring, typeahead, and sort & rank)
- Contributed to dev of multi-armed bandits (Flink stream processing)
- Time-series analysis and simulations of Thompson Sampling (Bayesian) Multi-Armed Bandit to assess impact of seasonal patterns on convergence. Designed a transformer to detrend signals and correct non-stationarity
- Implemented Bayesian A/B test methods (informed priors, weighted likelihood, ROPE) resulting in reduced test duration and increased interpretability
- Packaged experimentation analysis platform as a web-app for ease of use

#### **UCL & Future Skills Training (NGO)** Lead Data Scientist (Volunteering)

🛗 Jan 2020 - Mar 2020

**♀** London, UK

- Project lead, managing team of 5 graduate students on a charity data project
- Deployed NLP sentiment classifier with thematic identification & clustering

#### Satalia

May 2018 - August 2018

**Q** London, UK

• Performed run-time optimisations for A\* search methods with heuristic development for a multi-stage stochastic optimisation pricing agent

### **EDUCATION**

#### **University College London (UCL)**

**MSc Business Analytics** 

₩ Sep 2017 - Sep 2018

- Social network analysis & community detection to explore factors driving behavioural change in weight loss interventions using wearables
- Developed a predictive model for artist success to curate new artists for promotion on highly performing Spotify playlists (PCA, XG-Boost & SVMs)

### Imperial College London & CERN

**Experimental Particle Physics Researcher** 

₩ Oct 2013 - Sep 2014

- Developed an automated multivariate analysis framework in C++ for tuning a binary classifier to accept/reject signal/noise events
- Explored Linear Discriminant Analysis and Boosted Decision Trees approaches to identify important predictors leading to ~8-12% signal efficiency gains

### **Queen Mary University of London**

**BSc Physics (Honours)** 

## Sep 2010 - Jul 2013

• Optimised a  $\chi^2$  function for model fitting with extraction of probability density functions

## **TECH STACK**



## **PUBLICATIONS**



## **JOURNALS**

Arnold, T.et al.2014. Structure of normal-alkanes adsorbed on hexagonal-boron. J. Phys. Chem.

# **CERTIFICATIONS & AWARDS**



Scrum Alliance

Scrum Product Owner



**Guinness World Record Holder** Virgin Kitesurfing Armada 2016 UK

Int. Kiteboarding Organization

Kitesurfing Instructor Level 1