Patroklos Stefanou

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EDUCATION

MIT
MEng with Conc. in Machine Learning
May 2022 | Cambridge, MA
Concentration GPA: 5.0/5.0

BS in Computer Science
HASS Conc. in Economics
May 2020 | Cambridge, MA
GPA: 4.4/5.0

BRUNSWICK SCHOOL
Grad. May 2016 | Greenwich, CT
GPA: 4.0/4.0 - Classics Degree

LINKS

Email: **patstefanou [at) gmail (dot] com**
Site: **www.pstefanou12.github.io/**
Github: **pstefanou12**
Twitter: **@formyxscarfalo1**

COURSEWORK

GRADUATE
Advanced Machine Learning - 6.867
Advanced Natural Language Processing - 6.864
Adaptive Markets - 15.481
Computational Cognitive Science - 6.804

UNDERGRADUATE
Performance Engineering - 6.172
Socio-Economic Networks - 6.207
Design and Analysis of Algorithms
Computer Systems Engineering
Software Construction
Artificial Intelligence
Fundamentals of Programming
Linear Algebra
Probability and Random Variables
Differential Equations
Principles of Finance
Microeconomics
Macroeconomics
Challenges of World Poverty

HIGH SCHOOL
AP Calculus BC
AP Physics 1
AP Latin
Ancient Greek III Honors
AP French

SKILLS

PROFICIENT LANGUAGES
Python • Scala • Java • Go • Ruby

BIG DATA
AWS • Kafka • Temporal • Airflow • SignalFx •
Prometheus • Kubernetes • Apache Spark • SQL

MACHINE LEARNING
PyTorch • SciKit-Learn • TensorFlow • NumPy

OTHER
Bazel • Bash • Git

PERSONAL

LANGUAGES
English • (Ancient) Greek • French (Basic) • Latin

INTERESTS
Triathlon • Running • UFC • Pizza

WORK EXPERIENCE

STRIPE | SWE on Stream Infrastructure Team
August 2022 - Present | Seattle, WA

- Member of Stripe's stream infrastructure team which is responsible for running and hosting over 50 Apache Kafka clusters spanning over 4 AWS regions and 3 environments

- Main responsibilities include identifying issues with current system, scoping projects, contributing code, and handling on-call rotations

- Contributed to enterprise-scale streaming infrastructure including: (1) Temporal-based Kafka Control Plane for safe cluster operations, (2) Kproxy, a Scala-written high-availability layer for multi-cluster event publishing, and (3) Kafka Archiver for S3 data persistence

- Designed and implemented a critical coordination mechanism within the Kafka Control Plane that prevented concurrent high-risk operations on individual clusters, improving system stability and reducing operational incidents

- Redesigned and implemented an automated configuration management system for Kafka clusters that handles topic provisioning, partition scaling, and retention policies

RESEARCH EXPERIENCE

MIT CSAIL | Research Assistant, UROP
December 2019 - Present | Cambridge, MA
I am advised by **Professor Constantinos Daskalakis** in MIT's Economics and Computation Group.
Papers:
- Efficient Truncated Regression with Unknown Noise Variance - **[NeurIPS 2021]**

INTERNSHIPS

APPLE | SWE
June 2020 – August 2020 | Cupertino, CA
- Setup and experimented with Spotahome Redis cluster operator to assess the platforms' latency, throughput, and byte payload to Apache Kafka

NASDAQ | Full Stack Developer
June 2019-August 2019 | Boston, MA
- Created full-stack web app to detect anomalies in sports betting markets, using a Node.js backend, React, Redux frontend, and SQL database storage system

PROJECTS

DELPHI.AI | Efficient Truncated Statistics
February 2020 - September 2022
- Developed **delphi.ai**, a library for robust statistics and machine learning

TALKS

CONFLUENT CURRENT 2024 | Presenter
September 2024 | Austin, TX
- At Confluent Current 2024, I gave a 30 minute presentation on Stripe's Kafka Control Plane

TEMPORAL REPLAY 2023 | Presenter
September 2023 | Bellevue, WA
- At Temporal Replay 2023, I gave a 30 minute presentation on Stripe's Kafka Control Plane

TEACHING EXPERIENCE

INSPIRIT AI | Instructor
June 2020-August 2021 | Boston, MA

FUNDAMENTALS OF PROGRAMMING | Tutor
February 2021-June 2021 | Boston, MA

INTRODUCTION TO PROGRAMMING | Lab Assistant
February 2020-December 2020 | Cambridge, MA

ACTIVITIES

MIT MEN'S WATER POLO | Assistant Coach, Captain, Player
2016-2022 | Cambridge, MA