

Work Experience

Datadog, UK — Senior Software Engineer

Sep 2022 — Present

▶ APM Distributed Tracing

- Developed features in the APM Tracing ingestion pipeline across services serving million(s) QPS (Go, Java).
- Implemented the infrastructure and CI/CD for highly-available TrinoDB clusters (Java, Bazel, Kubernetes).

Facebook (Meta), UK — Senior Software Engineer

Apr 2020 — Aug 2022

▶ Workplace Knowledge Library (Dec 2021 - Aug 2022)

- Worked on backend API features for Workplace (Hack, Python, Javascript).

▶ WhatsApp Dev Infra (Apr 2020 - Dec 2021)

- Implemented core components for FAUSTA, a dynamic code analysis platform that detects reliability and privacy-related issues in WhatsApp server. Namely, a new high-throughput traffic replayer (1000+ qps) with a 35x improvement in performance, isolated server environments for deterministic test runs, and support for dynamically configuring the server test instances (Erlang, Python).
- Contributed to the paper [FAUSTA: Scaling Dynamic Analysis with Traffic Generation at WhatsApp](#) that received the "Best Industry Paper award" ([link](#)).
- Designed, proposed, and implemented an extension of the FAUSTA platform to provide continuous performance regression detection for WhatsApp server using A/B testing between different code revisions.
- Worked on the Continuous Integration (CI) workflows for WhatsApp server (Erlang, Python).

Amazon / Amazon Web Services (AWS), UK — Software Engineer

Sep 2015 — Apr 2020

▶ Amazon Profiler & Amazon CodeGuru Profiler team (Jun 2017 - Apr 2020)

- Part of the team that created, and launched [Amazon CodeGuru Profiler at AWS re:Invent 2019](#).
- Lead engineer supporting 3 teams across the US and the UK for the infrastructure platform of the CodeGuru Console. Offered training and mentoring to junior engineers onboarded into the AWS Console ecosystem.
- Architected and developed the CodeGuru Profiler API multi-region infrastructure and CI/CD pipelines using Infrastructure as Code (IaC) with CloudFormation and AWS CDK (Kotlin, Typescript).
- Researched, proposed, and implemented key parts of the "Profiler Efficiency Recommendations" feature which codifies performance efficiency issues and provides recommendations to the users, saving the company millions of \$ in infrastructure costs.
- Pioneered the way to deploy serverless Amazon-authenticated internal websites, by creating and maintaining an AWS Lambda@Edge library used by many teams across Amazon (e.g. AWS, Alexa, Retail). My work served as the blueprint for other teams to build their own frameworks on-top. I simplified the website tech stack, and deleted the legacy Rails deployments, while improving reliability.
- Developed and optimized core parts of the Profiler website enabling the flamegraph visualizations to smoothly render hundreds of thousands of elements.
- Implemented key backend features and APIs written in Java and Kotlin.

▶ LOVEFiLM By Post — DVD and Blu-ray rental service team (Sep 2015 - May 2017)

- Lead engineer for the *LOVEFiLM By Post* mobile application (Javascript).
- Worked on backend API services and the LOVEFiLM website (Java, Spring MVC).

▶ Amazon Web Services Certifications

- AWS Certified Professional - DevOps Engineer, AWS Certified Associate (3x)

Amazon Development Centre, UK — Software Engineer Intern

Jun 2014 — Aug 2014

▶ LOVEFiLM By Post — DVD and Blu-ray rental service team

- Implemented a desktop app automating the printing of dispatched envelope labels (.NET, Java, Swing).

Data Management Systems Lab, UCY, Cyprus — Software Engineer

Jun 2013 — Jun 2014

▶ AnyPlace: Indoor Positioning and Navigation System for Big Data — anyplace.cs.ucy.ac.cy

- Developed a REST API, a website, and an Android app offering real-time positioning and navigation.

Education

University of Oxford, UK

Sep 2014 — Sep 2015

- Master of Science in Computer Science (MSc), Grade: **Distinction**
- Thesis: *Single-round vs Multi-round Distributed Query Processing in Factorised Databases*

University of Cyprus (UCY), Cyprus

Sep 2010 — Jun 2014

- Bachelor of Science in Computer Science (BSc), Grade: **Distinction** (ranked **1st** of class)
- Thesis: *AnyPlace: Indoor Positioning and Navigation System for Big Data*

Languages & Technologies

- Languages: Go, Java, Kotlin, Python, Javascript

Projects

- www.lambrospetrou.com (2008 - present)
 - Personal website and blog.
- www.skybear.net (2024 - present)
 - Managed platform to run automated website and HTTP API tests with [Hurl.dev](https://hurl.dev) workflows.

Publications

- **Paper:** "[FAUSTA: Scaling Dynamic Analysis with Traffic Generation at WhatsApp](#)" Ke Mao, Timotej Kapus, **Lambros Petrou**, Ákos Hajdu, Matteo Marescotti, Andreas Löscher, Mark Harman, Dino Distefano, IEEE International Conference on Software Testing, Verification and Validation (ICST 2022)
- **Demo paper:** "*Anyplace: A Crowdsourced Indoor Information Service*", K.Georgiou, T.Constambeys, C.Laoudias, **L.Petrou**, G.Chatzimilioudis and D.Zeinalipour-Yazti "Proceedings of the 16th IEEE International Conference on Mobile Data Management" (MDM '15), Pittsburgh, Pennsylvania, USA, June 15-18, 2015
- **Demo paper:** "*Crowdsourced Indoor Localization and Navigation with Anyplace*", **L.Petrou**, G.Larkou, C.Laoudias, D.Zeinalipour-Yazti and C.G.Panayiotou "Proceedings of the 13th International Conference on Information Processing in Sensor Networks" (IPSN '14), Berlin, Germany, April 15-17, 2014
- **Demo paper:** "*Anyplace: Indoor Positioning and Navigation in the Big-Data Era*", **L.Petrou**, G.Larkou, C.Laoudias, D.Zeinalipour-Yazti and C.G.Panayiotou "Proceedings of the 4th International Conference on Indoor Positioning and Indoor Navigation" (IPIN '13), Montbeliard-Belfort, France, October 28-31, 2013

Awards & Achievements

- Best Industry Paper award, ICST-2022 ([link](#)) for [FAUSTA: Scaling Dynamic Analysis with Traffic Generation at WhatsApp](#).
- Awarded for one of the few HEFCE scholarships for graduate studies at University of Oxford, UK (Fall 2014).
- Granted for a Fulbright Student Scholarship for graduate studies in USA (Fall 2014).
- ACM SIGMOD 2015 Programming Contest, ranked *1st nationwide (Cyprus & UK)* and *5th worldwide* among 38 teams. Selected as one of the finalists to present our solution in ACM SIGMOD conference in Melbourne, Australia (<http://db.in.tum.de/sigmod15contest/leaders.html>).
- ACM SIGMOD 2014 Programming Contest, ranked *1st nationwide* and *9th worldwide* among 33 teams (<http://www.cs.albany.edu/~sigmod14contest/leaders.html>).
- ACM SIGMOD 2013 Programming Contest, ranked *1st nationwide* and *10th worldwide* among 55 teams (<http://sigmod.kaust.edu.sa/leaderboard.html>).