

Work Experience

Datadog, UK — Senior Software Engineer

Sep 2022 — Present

- ▶ **APM Distributed Tracing**

Facebook (Meta), UK — Senior Software Engineer

Apr 2020 — Aug 2022

- ▶ **Workplace Knowledge Library (Dec 2021 - Aug 2022)**

- Developed backend API features for Workplace (Hack, JavaScript, Python).

- ▶ **WhatsApp Dev Infra (Apr 2020 - Dec 2021)**

- Implemented core components for FAUSTA, our new dynamic code analysis platform that detects reliability and privacy-related issues in WhatsApp server. Namely, a high-throughput traffic replayer (1000 qps), 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 applying best-practices for Infrastructure as Code (IaC) using 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. Tens of engineers across the company were able to contribute to the efficiency patterns collection, saving the company millions of \$ in infrastructure costs.
- Pioneered the way to deploy serverless Amazon-authenticated internal websites, by 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.
- Deployed websites and APIs following a serverless architecture in AWS (API Gateway, AWS Lambda & Lambda@Edge, CloudFront, DynamoDB, S3). This led to simplification of our stack, and deletion of our legacy Rails deployments, while also having better reliability.
- Developed and optimized core parts of the Profiler website enabling our flamegraph visualizations to render hundreds of thousands of elements.
- Implemented key features on our backend services 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 - Solutions Architect, SysOps Administrator, Developer

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).

► AnyPlace: Indoor Positioning and Navigation System for Big Data

- Developed an Indoor Positioning and Navigation system providing a REST API backed by CouchbaseDB, along with a website and an Android app offering real-time positioning and navigation (anyplace.cs.ucy.ac.cy).

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:* Kotlin, Java, Go, JavaScript/TypeScript, Python

Projects

- **Personal website and blog (2008 - present):** <https://www.lambrospetrou.com>

Publications

- **Paper:** "[FAUSTA: Scaling Dynamic Analysis with Traffic Generation at WhatsApp](#)" Ke Mao, Timotej Kapus, **Lambros Petrou**, Ákos Hajdu, Matteo Marescotti, Andreas Löschner, 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>).