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Lambros Petrou

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Work Experience

Software Engineer	**Facebook, London, UK**	**April 2020 — Present**

- **Workplace Knowledge Library (Dec 2021 - present)** — https://www.workplace.com/features/knowledge-library
- **WhatsApp Dev Infra (Apr 2020 - Dec 2021)** — https://www.whatsapp.com
  - Implemented core components (traffic replayer, isolated server environment, dynamic configuration) for FAUSTA, our new dynamic code analysis platform that detects reliability and privacy-related issues in WhatsApp server.
    ***Best Industry Paper award** (link)* for FAUSTA: Scaling Dynamic Analysis with Traffic Generation at WhatsApp.
  - Designed, proposed, and implemented an extension of the FAUSTA platform to provide 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).

Software Development Engineer	**Amazon Web Services (AWS), London, UK**	**May 2019 — April 2020**

- **Amazon CodeGuru Profiler** — https://aws.amazon.com/codeguru/features#Amazon_CodeGuru_Profiler
  - Part of the team that created, and launched Amazon CodeGuru Profiler at AWS re:Invent 2019.
  - Lead engineer of the infrastructure platform for the CodeGuru Console supporting teams across US and UK.
  - Implemented the initial CloudFormation support for CodeGuru Profiler resources.
  - Architected and developed the CodeGuru Profiler API multi-region infrastructure applying best-practices for Infrastructure as Code using CloudFormation, AWS CDK (Kotlin, TypeScript), and integrating with our CI/CD tools.
  - Contributed to the user experience of the Console using React, Redux, Cypress.

Software Development Engineer	**Amazon Development Centre, London, UK**	**Sep 2015 — May 2019**

- **Amazon Profiler team (Jun 2017 - May 2019)**
  - Worked on our backend services and APIs written in Java and Kotlin.
  - Researched, and worked on the implementation of the Profiler Efficiency Recommendations feature which codifies efficiency issues and provides recommendations to the users.
  - Maintained an AWS Lambda@Edge interceptor in order to simplify the deployment of Amazon-authenticated websites using serverless technologies. Used by many teams across Amazon (e.g. AWS, Alexa, Consumer).
  - Deployed static websites and several supporting APIs (Node.js) following a serverless architecture in AWS (API Gateway, AWS Lambda & Lambda@Edge, CloudFront, DynamoDB, S3, and more).
  - Re-designed and implemented the Profiler website using React, Redux, Cypress.
- **LOVEFiLM By Post — DVD and Blu-ray rental service team (Sep 2015 - May 2017)**
  - Lead engineer for the *LOVEFiLM By Post* mobile application (Cordova, Ionic, AngularJS, SASS).
  - Worked on backend services and parts of the LOVEFiLM website (Java, Spring MVC).
- **Amazon Web Services Certifications**
  - AWS Certified Professional - DevOps Engineer
  - AWS Certified Associate - Solutions Architect, SysOps Administrator, Developer

Software Development Engineer - Intern	**Amazon Development Centre, London, UK**	**Jun 2014 — Aug 2014**

- Member of the LOVEFiLM By Post rental service team where I implemented a service that automates the printing process for the dispatched disks' envelope labels (FlexMail, .NET, Java, Swing).

Software Engineer	**Data Management Systems Laboratory, UCY, Cyprus**	**Jun 2013 — Jun 2014**

AnyPlace: Indoor Positioning and Navigation System for Big Data — https://anyplace.cs.ucy.ac.cy
- Developed and implemented an Indoor Positioning and Navigation system that provides a Web2.0 API for 3rd-party clients backed by Couchbase, along with a website and an Android app offering real-time positioning and navigation.

Education

Oxford, UK	**University of Oxford**	**Sep 2014 — Sep 2015**

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

Nicosia, Cyprus	**University of Cyprus, UCY**	**Sep 2010 — Jun 2014**

- Bachelor of Science in Computer Science, *GPA: 9.41 /10 (**Ranked 1st** of class)*
- Thesis: *AnyPlace: Indoor Positioning and Navigation System for Big Data* as described in *Work Experience*
- Erasmus student for one semester at Ecole Polytechnique Federale de Lausanne (EPFL), Lausanne, Switzerland (2013)

Languages & Technologies

- *Languages*: Kotlin, Java, Go, JavaScript/TypeScript, Python
- *Favourite stack* 🚀 Serverless (AWS Lambda, AWS Fargate), ReactJS, Go

Other Technical Experience

Projects

- **Personal Website (2008 – Present)**: Personal website and blog (https://www.lambrospetrou.com)
- **ACM SIGMOD 2015 Programming Contest**: Implemented a database management system that evaluated thousands of validation requests each with a set of Boolean Conjunctive Queries (extended with mathematical and logical operators) against a constantly modified database (http://db.in.tum.de/sigmod15contest/leaders.html).
- **ACM SIGMOD 2014 Programming Contest**: Implemented a social network analysis system that responded to numerous Top-K queries (http://www.cs.albany.edu/~sigmod14contest/leaders.html).
- **ACM SIGMOD 2013 Programming Contest**: Implemented a high-throughput streaming document filtering system using a dynamic set of exact and approximate continuous keyword match (http://sigmod.kaust.edu.sa/leaderboard.html).

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
- ACM SIGMOD 2014 Programming Contest, ranked *1st nationwide* and 9th worldwide among 33 teams
- ACM SIGMOD 2013 Programming Contest, ranked *1st nationwide* and 10th worldwide among 55 teams

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