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Lambros Petrou

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github.com/lambrospetrou

Work Experience

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

- **Amazon Profiler team (Jun 2017 - present)**
  - Provide internal tooling for performance optimisation and monitoring across Amazon backend services.
  - Designed and implemented parts of our website using ReactJS (Redux, Redux-sagas, etc.).
  - Deployed the website and several supporting APIs (Node.js) following a serverless architecture in AWS (API Gateway, AWS Lambda & Lambda@Edge, CloudFront, DynamoDB, S3).
- **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, SpringMVC).
- **Amazon Web Services Certifications**
  - AWS Certified Solutions Architect Associate (AWS-ASA-17150)
  - AWS Certified SysOps Administrator Associate (AWS-ASOA-4686)
  - AWS Certified Developer Associate (AWS-ADEV-3263)

Software Engineer	**Funifi Ltd, Cyprus**	**Sep 2014 — Sep 2014**

- Refactored server-side code (NodeJS), extended the existing REST API with new functionality for the upcoming Funifi store, and started the implementation of an administration web dashboard using AngularJS.

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

- Member of the LOVEFiLM By Post rental service team as summer intern.
- Implemented an internal service that automates the printing process for the dispatched disks' envelope labels (FlexMail, .NET, Java, Swing).

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

AnyPlace: Indoor Positioning and Navigation System for Big Data

- Developed a complete architecture for an Indoor Positioning and Navigation system that provides a Web2.0 API for 3rd-party clients backed by Couchbase, a NoSQL datastore. (http://anyplace.cs.ucy.ac.cy)
- Implemented an Android app that offers real-time positioning and navigation indoors, and a web-based application developed using Google Dart that provides similar services through any HTML-5 compliant browser.
- Designed & implemented a Wi-Fi RSS-based radio map construction algorithm that can filter out useless Access Points and erroneous or unnecessary Wi-Fi fingerprints using Hadoop (Map-Reduce framework).

Software Developer, Intern	**Data-Driven Multithread Research Laboratory, UCY**	**May 2012 — Aug 2012**

- Developed a plugin for Eclipse IDE to provide content assistance and custom pre-processing for an in-house language.

Software Developer, Intern	**Computer Graphics Laboratory, UCY**	**Dec 2011 — Jan 2012**

- Processed and presented crowd movement simulation data in a realistic 3D stage using 3D figures - *Unity3D, KINECT*

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*
  - Designed and implemented a *distributed join query evaluation engine* (C++), coined D-FDB. In contrary to traditional systems, D-FDB uses data factorizations (f-representations) end-to-end exploiting their theoritical size-bounds against flat relational tables minimizing the total query execution time.
  - Developed serialization and bit-compression techniques to efficiently transmit data factorizations over the network whilst retaining the factorization compression levels.

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*
- Coursework (*selected courses*): Algorithms and Complexity, Distributed Algorithms, Parallel Algorithms, Computer Architecture, Systems Programming, Parallel Processing

Lausanne, Switzerland	**Ecole Polytechnique Federale de Lausanne, EPFL**	**Sep 2013 — Jan 2014**

- Erasmus student for one semester, Department of Computer Science
- Coursework: Software Engineering, Concurrent Algorithms, TCP/IP Networking, Program parallelization on PC clusters

Languages & Technologies

- *Languages*: C, C++, Java, Go, Python (scripting), Elixir (novice), Clojure/Racket (learning)
- *Web*: HTML5, CSS & SASS, Javascript (ES6, TypeScript), Node.js, ReactJS, AngularJS, Mithril

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

- Nominated for one of the few HEFCE scholarships for graduate studies at University of Oxford, UK (Fall 2014)
- Nominated 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
- Promoted to Second Lieutenant of Infantry during my two years of obligatory army service (2008-2010)

Publications

- **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

Other interests

- Volleyball addict (setter)
- Fan of martial arts — Practised Karate Shotokan for 8 years, and Wing Chun Kung Fu for a few months