

Career Summary

Sep 2019 – Present Software Engineer, [MonetDB Solutions](#)

Role outline

- **Hermes: Query driven adaptive replication:** An elastic Replication-as-a-Service (RaaS) mechanism on top of an existing Relational Database Management System (RDBMS), which manages a cluster of in-memory database replicas that act as caches, and orchestrates query processing over them. The replicas contain certain columns which derive from the queries that arrive for execution. Each replica acts as an in-memory cache that can serve the query result set. In order to pick the best replica node for execution, each node makes an offer depending on a cost function. The cost model takes into account, among other things, the load of the server and the number of columns that exist in the replica and fit the query requirements. The execution takes place on the cheapest replica offer.
- **Database benchmarking:** I implemented the NYC Taxi benchmark in Java, for H2, HSQLDB, SQLite and Java MonetDBe and generated a performance report. The focus was solely on embedded databases.
- **MonetDB Cumulus:** A web application to control the MonetDB kernel in the Cloud. Apart from the development of the product, I also wrote the documentation, created a tutorial video and took the leading role regarding the deployment options. I published a Docker container for our customers to use, and I also created a container offering in Microsoft Azure Marketplace.
- **GDKTracer:** A logging system for the MonetDB stack written in C. It offers various logging levels, but also it provides options to increase or reduce the verbosity of individual components of the codebase. The behaviour of the system can be controlled on the runtime through the SQL API that I built specifically to serve that purpose.
- **Serverless Evolution:** An academic research related to serverless computing. I performed an extended investigation regarding the evolution of serverless Cloud offerings throughout the years. I turned my focus to ‘Serverless Runtimes’ a.k.a Function-as-a-Service, and ‘Serverless Databases’.

Dec 2018 – Aug 2019 Software Engineer, [MarXact](#)

Role outline

- **UNI-Cloud:** Development numerous features for the web application. The most interesting ones are the real-time data updates through WebSockets, and the caching layer that I introduced, using Redis, to increase the performance of certain requests. Apart from that I also created the documentation for the REST API, using Swagger.
- **UNI-Billing:** A REST API that acts as a communication layer between the e-commerce platform of MarXact and all the Cloud services.
- **UNI-LoRa:** Communication between IoT devices using LoRa antennas, where I designed and implemented a messaging protocol with which receivers had to perform certain actions when they received certain messages. A very interesting feature is the fact that senders could inform receivers so that they swap roles.
- **Kubernetes:** Designed and performed the transition of the company from a single server, to a bare-metal K8s cluster. I deployed and configured all the web-services. For the underlying infrastructure, I introduced a NFS so that all the Virtual Machines would have access to a common storage layer. I also installed and configured NIS, so that all the VMs in the cluster would share information regarding the users and the network itself.

Dec 2017 – Aug 2018 Research and Engineering Staff, [ICS-FORTH](#)

Role outline

- **TensorFlow:** I instrumented the backend of TensorFlow to measure training overheads related to storage and memory footprint, memory bandwidth, kernel throughput and execution time, on various three-convolutional-stage neural networks.
- **Google Cluster Data:** Analyzed the cluster workload trace released by Google in May 2011. My goal was to find correlations between all the long-running high priority tasks.

Jun 2017 – Nov 2017 Undergraduate Research Intern, [ICS-FORTH](#)

Role outline

- **Zeus: Utilization aware modifications to Apache Mesos:** My BSc thesis which I carried out as an intern at the Institute of Computer Science.

Sept 2016 – Oct 2017 Web Designer & Developer, Freelancer

Role outline

- **Websites:** I designed, developed and deployed various websites for companies that did not have a formal appearance on the Internet. Most of them were websites with basic functionality, but I was also engaged with e-commerce platforms.
- **Yossi Tours:** A backend application for a travel agency. It allows the company to manage its customers and partners, create tours and generate related invoices. On top of that, the system introduced a number of handy features, such as in-app communication with other members of the company, auto-generated customer e-mails and various analytics reports.

Projects

- **Instant-RTK:** A software layer on top of any RTK provider. The software acts as an NTRIP caster and where users can connect and receive correction data. Apart from that, the software exposes an API that allows integration with any RTK compatible software, as well as instant creation of user accounts that can immediately make use of the service.
- **Covid19 Locator:** An attempt with a friend to contribute to limiting the spread of Covid19 in Greece. We made an online application that keeps track of possible unconfirmed corona-virus cases. People could fill online their symptoms and their general location in order to raise awareness of their neighbours. The data were fully anonymized and access to our API could be requested for data-analysis purposes.
- **SWAnalytics:** An interesting University project which tries to analyze if there is a correlation between the sentiment of people on Twitter and the price of a particular stock.

Education

2018 – Present **[MSc. in Computer Science - Parallel Computing Systems](#)**
Vrije Universiteit & University of Amsterdam, The Netherlands

2011 – 2017 **[BSc. in Computer Science](#)**
University of Crete, Greece

GPA: 7.13/10 Upper Second-Class Honours (2:1) - 4TH/50 in Graduation Ceremony

Thesis: [Utilization aware modifications to Apache Mesos](#) (Grade: 10/10)

Professor: [Prof. Angelos Bilas](#)

Supervisor: [Dr. Christos Kozanitis](#)

Description: Developed Zeus, a Mesos Framework that improves cluster utilization. Zeus learns the resource requirements of the application containers it schedules through a combination of profiling runs and Machine Learning techniques. It then allocates only the necessary resources for an optimal execution, without letting users specify their constraints in terms of CPU and memory. Zeus supports single-node but also distributed applications, such as Spark and YCSB on Memcached.

Skills

Programming	C, Java, Python, Bash
Web Programming	HTML, CSS, PHP, Java Servlets, JavaScript (& JQuery), Angular, .NET Core, SignalR, Chart.js, Bootstrap, Flask, Swagger
Databases	MySQL, PostgreSQL, MariaDB, MonetDB, Redis
Cloud	Microsoft Azure, Amazon Web Services, IBM Cloud
Open Source	Apache Mesos, TensorFlow, Apache Spark, Kubernetes
Other	NIS, NFS, Maven, Docker, Matplotlib, Git, Mercurial, SEO, WordPress, WooCommerce, Latex

Scholarships

October 2019	Received a full scholarship from Huawei to attend The 27th ACM Symposium on Operating Systems Principles (Ontario, Canada)
October 2017	Received a full scholarship from SIGOPS to attend The 26th ACM Symposium on Operating Systems Principles (Shanghai, China)

Attended Events & Conferences

October 2019	The 27th ACM Symposium on Operating Systems Principles (Ontario, Canada)
July 2019	Amsterdam Data Science meets SIGMOD (Amsterdam, The Netherlands)
December 2018	Google Developers DevFest (Heraklion, Greece)
February 2018	Oracle Academy Day (Heraklion, Greece)
October 2017	The 26th ACM Symposium on Operating Systems Principles (Shanghai, China)
July 2017	Google Developers I/O (Heraklion, Greece)
November 2015	Google Developers DevFest (Heraklion, Greece)

General Interests

Puzzles, Snorkeling, Travelling, Video games