

Christina Pavlopoulou

CONTACT INFORMATION

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RESEARCH INTERESTS

Databases
Query Optimization
Data Mining
Pattern recognition
Machine Learning
Feature Extraction

EDUCATION

- University of California, Riverside
Computer Science Department
PhD in Computer Science
September 2015 to Present
- University of Patras
Computer Engineering and Informatics Department
MSc in Computer Science and Technology
January 2014 to June 2015
GPA 8.55/10
Master Thesis: *"Development of User's Activity Recognition Methods using Smartphone Sensors"*
Advisor: Associate Professor Sotiris Nikolettseas
- University of Patras
Computer Engineering and Informatics Department
Diploma
September 2008 to February 2014
GPA 7.40/10
Diploma Thesis: *"Theory and applications of cellular automata: The topology control problem in wireless ad-hoc networks"*
Advisor: Professor Christos Kaklamanis

WORK EXPERIENCE

- **Teradata Corp - Summer 2018**
I worked as a software engineer intern for Teradata's optimizer group. Specifically, I participated in optimizing join queries for Advanced Analytics in Teradata Analytics Platform.
- **Google Summer of Code 2017**
I worked on adding Lucene Index for XML data in Apache VXQuery. Specifically, I added path, value and attribute index for XML data.
- **Google Summer of Code 2016**
I worked on adding the JSONiq feature on Apache VXQuery (XML Processor), according to JSONiq Extension to XQuery language specifications. Specifically, I added the JSON data model along with the ability of parsing and processing JSON data.

ACADEMIC EXPERIENCE

- **Teaching Assistance**
Software Construction, University of California, Riverside
October 2016 - June 2017
Database Management Systems, University of California, Riverside
October 2016 - December 2016
Databases Laboratory, Computer Engineering and Informatics Department
December 2013 - February 2014

Introduction to C Laboratory, Computer Engineering and Informatics Department
October 2013 - February 2014

Architecture Laboratory, Computer Engineering and Informatics Department
March 2014 - June 2014

Object Oriented Programming (Java) Laboratory, Computer Engineering and Informatics Department

March 2014 - June 2014

- **Research Assistance**

- **"Apache AsterixDB"**, Apache, UCR and UCI project

- Apache AsterixDB is a BDMS (Big Data Management System) with a rich feature set that sets it apart from other Big Data platforms. Its feature set makes it well-suited to modern needs such as web data warehousing and social data storage and analysis.

- Our focus on that system is to enable query optimization (rewrite rules) based on cost-models derived from several statistics information.

- 2017-present

- **"Apache VXQUERY"**, Apache project

- Apache VXQUERY is an XML and JSON Query processor implemented in Java. The focus is on the evaluation of queries on large amounts of XML and JSON data. Specifically the goal is to evaluate queries on large collections of relatively small XML and JSON documents.

- My work on VXQuery focused on adding the JSONiq feature along with some rewrite rules that made it extremely scalable and parallel. Compared with Apache AsterixDB and MongoDB, it can process large and deep-nested JSON documents much more efficiently.

- 2015-2017

- **"Iot Lab"**, European research project

- Development of android applications which enable detection of human motion

- Using funf framework to schedule smartphones' sensors (such as accelerometers, gyroscopes) and by suitably processing their readings, it is possible to create a classification model using the weka tool to infer human activity (sitting, lying, walking)

- 2014-2015

PAPERS

- Christina Pavlopoulou, Preston E. Carman, Jr, Till Westmann, Michael J. Carey and Vassilis J. Tsotras. A Parallel and Scalable Processor for JSON Data. The 21st International Conference on Extending Database Technology (EDBT 2018)
- Christina Pavlopoulou, Gabriel Filios and Sotiris Nikolettseas. Efficient Parameterized Methods for Physical Activity Detection using only Smartphone Sensors. The 13th ACM International Symposium on Mobility Management and Wireless Access (MobiWac 2015)
- Christina Pavlopoulou, Gabriel Filios, Maria Rapti and Sotiris Nikolettseas. Hierarchical algorithm for daily activity recognition via smartphone sensors. The 2nd IEEE World Forum on Internet of Things (WF-IoT 2015)

COMPUTER SKILLS

- **Programming:** Java, Matlab, C, C++, Python, Sql, XML, JSON, Scala
- **Web Programming:** PHP, HTML, Javascript
- **Operating Systems:** Windows XP/ Vista/8, Ubuntu
- **Computer Systems:** Hadoop, MongoDB, AsterixDB, VXQuery, Spark SQL
- **API:** Android, Weka

HONORS AND AWARDS

- **2008:** Entrance in Computer Engineering and Informatics Dt, University of Patras, Greece (34th among 200 students).
- **2008:** Graduated from General High School. Ranking 3d among 44 students.

- **2015:** Admitted for PhD studies to **University of California, Riverside** with the **dean's fellowship**.
- **2016:** Awarded with the Gerondellis Foundation Fellowship.
- **2016:** **Apache** committer.