

# Iacovos G. Kolokasis

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## Research Interests

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- Large Scale Distributed Systems
- Memory and Storage Systems
- Big Data Computations
- Java Virtual Machines
- Computer Systems
- Operating Systems

## Research Experience

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### ICS-FORTH

GRADUATE RESEARCH ASSISTANT

Heraklion, Greece

Sep. 2017 - Present

- Evaluate different approaches to expand memory address space for JVM-based large-scale data analytics frameworks using fast storage devices
- Implement an extra storage level on Apache Spark to cache data off-heap on non-volatile memories.
- **Supervision:** Angelos Bilas and Polyvios Pratikakis

### ICS-FORTH

UNDERGRADUATE RESEARCH ASSISTANT

Heraklion, Greece

Jan. 2017 - Aug. 2017

- Schedule techniques for data placement for large scale graph analytics (Apache Spark GraphX).
- **Supervisor:** Polyvios Pratikakis

## Industrial Experience

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### SAP HANA VORA

INTERN RESEARCH STUDENT

Walldorf, Germany

Jun. 2019 - Sep. 2019

- Improve/Enhance the Data Structure of the Syntax Tree of the SQL Parser

## Education

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### University of Crete

PH.D IN COMPUTER SCIENCE

Heraklion, Greece

Jan 2021 - Present

- **Area of Study:**
  - Parallel and Distributed Systems
  - Architecture of Microelectronic Systems
- **Supervision:** Angelos Bilas

### University of Crete

M.Sc. IN COMPUTER SCIENCE

Heraklion, Greece

Sep. 2017 - Oct 2020

- **Area of Study:**
  - Parallel and Distributed Systems
  - Architecture of Microelectronic Systems
- **GPA:** 9.43/10
- **Thesis Topic:** TeraCache: Efficient Caching over Fast Storage Devices
- **Supervision:** Polyvios Pratikakis and Angelos Bilas

### University of Crete

B.Sc. IN COMPUTER SCIENCE

Heraklion, Greece

Sep. 2011 - Jul. 2017

- **GPA:** 7.62/10 (9th out of 65 in B.Sc. Graduates 2017)
- **Thesis Topic:** Locality optimizations for distributed graph analytics computations
- **Supervisor:** Polyvios Pratikakis

## Publications

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### FULL PAPERS / ARTICLES

**Iacovos G. Kolokasis**, Anastasios Papagiannis, Foivos Zakkak, Polyvios Pratikakis, and Angelos Bilas. Say Goodbye to Off-heap Caches! On-heap Caches Using Memory-Mapped I/O. In Presented as part of the 12th USENIX Workshop on Hot Topics in Storage and File Systems (HotStorage '20), Boston, MA, 2020. USENIX. (**Best Presentation Award**)

**Iacovos G. Kolokasis** and Polyvios Pratikakis. Cut to Fit: Tailoring the Partitioning to the Computation. 2nd Joint International Workshop on Graph Data Management Experiences & Systems (GRADES) and Network Data Analytics (NDA), June 30-July 2019, Amsterdam, Netherlands

## POSTERS .....

**Iacovos G. Kolokasis**, Anastasios Papagiannis, Foivos Zakkak, Shoaib Akram, Christos Kozanitis, Polyvios Pratikakis, and Angelos Bilas. TeraCache: Efficient Caching over Fast Storage Devices. MSR Cambridge PhD Virtual Workshop on Next-Generation Cloud Infrastructure'21.

**Iacovos G. Kolokasis**, Anastasios Papagiannis, Foivos Zakkak, Polyvios Pratikakis, and Angelos Bilas. Garbage Collection or Serialization? Between a Rock and a Hard Place! 16th International Summer School on Advanced Computer Architecture and Compilation for High-Performance and Embedded Systems (ACACES).

## TECHNICAL REPORTS .....

**Iacovos G. Kolokasis** and Polyvios Pratikakis. Cut to Fit: Tailoring the Partitioning to the Computation. Technical Report 469, ICS – FORTH, Apr 2018

## Teaching Experience

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### Systems Programming Lab (CS-255)

University of Crete

TEACHING ASSISTANT | INSTRUCTOR: ANGELOS BILAS

Spring 2021

- Answering students questions about the assignments
- Marking assignments submissions and examination scripts
- Part of my responsibilities was to teach tutorials for students, design assignments with the professor and another TA, and mark assignments and exams

### Introduction to Computer Science (CS-100)

University of Crete

TEACHING ASSISTANT | INSTRUCTOR: POLYVIOS PRATIKAKIS

Fall 2018, 2019, 2020

- Part of my responsibilities was to teach tutorials for students, design assignments with the professor and another TA, and mark assignments and exams

### Parallel Computing (CS-342)

University of Crete

TEACHING ASSISTANT | INSTRUCTOR: POLYVIOS PRATIKAKIS

Spr. 2018, 2019

- Part of my responsibilities was to teach tutorials for students on a weekly basis, mark assignments and exams

### Data Structures (CS-240)

University of Crete

TEACHING ASSISTANT | INSTRUCTOR: PANAGIOTA FATOUROU

Spr. 2018, 2020

- Part of my responsibilities was to co-design the project with the professor and another TA, project presentation, answer students questions, and mark assignments and exams

### Digital Design (CS-120)

University of Crete

TEACHING ASSISTANT | INSTRUCTOR: MANOLIS G.H. KATEVENIS

Fall 2017

- Responsible for two hour laboratories where undergraduate students learn the basics of digital design and implement a simple processor, mark assignments and exams

## Talks

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- Jul. 2021 **TeraCache: Efficient Caching over Fast Storage Devices**, HPC I/O in the Data Center Workshop *Virtual*
- Mar. 2021 **TeraCache: Efficient Caching over Fast Storage Devices**, MSR Cambridge PhD Virtual Workshop on Next-Generation Cloud Infrastructure *Virtual*
- Nov. 2020 **TeraCache: Efficient Caching over Fast Storage Devices**, Data and AI Summit Europe'20 *Virtual*
- Jul. 2020 **Say Goodbye to Off-heap Caches! On-heap Caches Using Memory-Mapped I/O**, HotStorage'20 *Virtual*
- Oct. 2019 **In-Memory Computing at Scale? Look Beyond Physical DRAM**, University of Crete *Heraklion, Greece*
- Sep. 2019 **Improve/Enhance the Data Structure of the Syntax Tree of the SQL Parser**, SAP HANA *Walldorf, Germany*
- Sep. 2019 **Scaling In-Memory Computing for JVM-based Big Data Analytics**, SAP HANA *Walldorf, Germany*
- Sep. 2019 **Cut to Fit: Tailoring the Partitioning to the Computation**, SAP HANA *Walldorf, Germany*
- Jun. 2019 **Cut to Fit: Tailoring the Partitioning to the Computation**, GRADES-NDA 2019 *Amsterdam, Netherlands*
- Jul. 2018 **Cut to Fit: Tailoring the Partitioning to the Computation**, 14th ACACES Summer School - HIPEAC *Fiuggi, Italy*

## Honors & Awards

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Jul. 2021	<b>Scholarship</b> , Received a full scholarship from Usenix Association to attend the 14th Usenix Symposium on Operating Systems Design and Implementation (OSDI'21)	<i>Virtual Conference</i>
Feb. 2021	<b>Scholarship</b> , Received a full scholarship from Usenix Association to attend the 19th Usenix Conference on File and Storage Technologies (FAST '21)	<i>Virtual Conference</i>
Dec. 2020	<b>Scholarship</b> , Received a full scholarship from Independent Power Transmission Operator (ADMIE)	<i>Heraklion</i>
Jul. 2020	<b>Scholarship</b> , Received a full scholarship from Usenix Association to attend the 14th Usenix Symposium on Operating Systems Design and Implementation (OSDI'20)	<i>Virtual Conference</i>
Sep. 2020	<b>Scholarship</b> , Received Scholarship from Independent Power Transmission Operator (IPTO)	<i>Heraklion, Greece</i>
Jul. 2020	<b>Award</b> , Received Best Presentation Award in HotStorage 2020	<i>Virtual Conference</i>
Jul. 2020	<b>Scholarship</b> , Received a full scholarship from Usenix Association to attend the Usenix Annual Technical Conference 2020 (ATC'20)	<i>Virtual Conference</i>
Oct. 2019	<b>Scholarship</b> , Received a full scholarship from Huawei to attend the 27 <sup>th</sup> ACM Symposium on Operating Systems Principles	<i>Ontario, Canada</i>
Sep. 2018	<b>Scholarship</b> , Received a full scholarship from SAP SE to attend the 6 <sup>th</sup> Heidelberg Laureate Forum	<i>Heidelberg, Germany</i>
Jul. 2018	<b>Scholarship</b> , Received a full scholarship from HIPEAC to attend the 14 <sup>th</sup> ACACES Summer School	<i>Fiuggi, Italy</i>
Mar. 2017	<b>Scholarship</b> , Received five full graduate research scholarships from ICS-FORTH while I was working on my master thesis	<i>Heraklion, Crete</i>
Jul. 2017	<b>Scholarship</b> , Received a full undergraduate research scholarship from ICS-FORTH (3 months) while I was working on my thesis	<i>Heraklion, Crete</i>
Sep. 2012	<b>Scholarship</b> , My second year at the university was supported fully by fellowships "Stelios Orphanoudakis"	<i>Heraklion, Greece</i>
Jun. 2009	<b>Finalist</b> , Programming contest organized by CYTA	<i>Nicosia, Cyprus</i>

## Service

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Jul. 2021	<b>Member</b> , OSDI'21 Artifact Evaluation Committee	<i>Virtual</i>
Apr. 2021	<b>Member</b> , ASPLOS'21 Artifact Evaluation Committee	<i>Virtual</i>
Apr. 2021	<b>Member</b> , EuroSys'21 Artifact Evaluation Committee	<i>Edinburgh</i>
Feb. 2021	<b>Member of Organization Committee</b> , 1st Career Day CSD, UoC	<i>Heraklion, Greece</i>
2019 - Present	<b>Student Member</b> , Association of Computing Machinery (ACM)	
Apr. 2021	<b>Volunteer (Host social media)</b> , EuroSys 2021	<i>Edinburgh, UK</i>
Jun. 2020	<b>Volunteer (Host zoom sessions)</b> , 2nd Summit on Gender Equality in Computing (GEC 2020)	<i>Virtual Conference</i>
Apr. 2020	<b>Volunteer (Lead EuroSys'20 Slack workspace and be a co-host in zoom sessions)</b> , EuroSys 2020	<i>Virtual Conference</i>
Mar. 2020	<b>Member</b> , ASPLOS'20 Artifact Evaluation Committee	<i>Switzerland</i>
Oct. 2019	<b>Co-head of Organization Committee</b> , 1st Graduate Students Conference CSD, UoC	<i>Heraklion, Greece</i>
Sep. 2019	<b>Deputy Graduate Students Representative</b> , Computer Science Dept., University of Crete (2019-2020)	<i>Heraklion, Greece</i>
Jan. 2018	<b>Graduate Students' Association Representative</b> , Computer Science Dept., University of Crete (2018-2020)	<i>Heraklion, Greece</i>
May 2012	<b>Public Relation Officer</b> , Board Council of the Cypriot Students' Union (2012-2015)	<i>Heraklion, Greece</i>

## Skills

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**Languages** Greek (native), English (fluent; TOEFL), French

## References

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<b>Angelos Bilas</b> PROFESSOR AT UNIVERSITY OF CRETE & ASSOCIATE RESEARCHER AT ICS-FORTH bilas@ics.forth.gr	<i>Heraklion, Greece</i>
<b>Polyvios Pratikakis</b> PROFESSOR AT UNIVERSITY OF CRETE & ASSOCIATE RESEARCHER AT ICS-FORTH polyvios@ics.forth.gr	<i>Heraklion, Greece</i>
<b>Christos Kozanitis</b> RESEARCH SCIENTIST AT ICS-FORTH kozanitis@ics.forth.gr	<i>Heraklion, Greece</i>