IRAKLIS PSAROUDAKIS, PH.D.

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I am a technology enthusiast with a firm theoretical background and practical skills in software and web development. Interested in leading solutions for challenging topics in full stack system engineering, with a backend and analytics focus.

Work experience

06/2022 – now	**Principal Software Engineer** – Elastic, Greece (remote position via a local EoR/PEO) Focusing on the distributed data storage layer of Elasticsearch.
01/2017 – 05/2022	**Principal Member of Technical Staff** (since Aug. 2018) – Oracle Labs, Zürich, Switzerland **Senior Member of Technical Staff** (until Jul. 2018) ▪ Member of the Parallel Graph AnalytiX (PGX) team, focusing on analytical & graph workloads, parallel and distributed programming & OS/runtime interaction (with Callisto-RTS). ▪ Liaison for the Oracle Financial Services Crime & Compliance Studio product team, leading a team for the integration of PGX, Oracle Labs Data Studio, and innovative machine learning solutions.
08/2012 – 12/2012	**Software developer** (Internship) – SAP S.E., Walldorf, Germany. C++ developer for the thread and task scheduling framework of the SAP HANA database.
11/2010 – 08/2011	**Computer programmer and analyst** (Private; not a regular job) – Greek army, Greece. Completed my national military obligations as a private in the body of information technology.
01/2009 – 06/2010	**Software and web developer** (Under student fellowship; not a regular job) – Institute for the Management of Information Systems (IMIS), Athens, Greece.

Education

09/2011 – 12/2016	**École Polytechnique Fédérale de Lausanne (EPFL)**, Lausanne, Switzerland. **Ph.D.** School of Computer and Communication Sciences, Data-Intensive Applications (DIAS) lab. In cooperation with the SAP HANA database team (Walldorf, Germany) during Jan. 2013 - Sep. 2016. Thesis: "Scaling Up Concurrent Analytical Workloads on Multi-Core Servers". Core research areas: ▪ Sharing data and work across concurrent queries. Combined two sharing techniques, sharing common sub-plans and sharing query operators, to further improve performance by up to 2x. ▪ Adaptive NUMA-aware data placement and task scheduling. Adapted data placement & task stealing to analytical workloads to improve the performance of main-memory column-stores by up to 4x.
09/2005 – 07/2010	**National Technical University of Athens (NTUA)**, School of Electrical & Computer Engineering, Athens, Greece. **5-Year Diploma** (MSc equivalent). Major: computer science (information systems). ▪ GPA: **8.70/10.00**. Ranking: inside **10%** of the class. GPA of courses in major: **9.16/10.00**. ▪ Core modules: algorithms and complexity, software engineering, internet programming, databases, compilers, artificial intelligence, microprocessors, electronics, telecommunication systems, VLSI. ▪ Thesis "Application of Object Relational Mapping on the environment for the management of webpages of courses of NTUA", supervised by Prof. Timos Sellis, while interning at IMIS.
06/2005	**Private Senior School Pagkritio Ekpaideutirio**, Heraklion, Greece. General degree **19.6/20.00**.

Computer skills

Program-ming & IT skills	Excellent	▪ C++03/11/14. gdb. Performance analysis with perf, Intel VTune Amplifier and PCM. ▪ Java for desktop and web/services development. Gradle. ▪ DevOps & CI/CD: Jenkins, Docker, Kubernetes. ▪ Code & team management: BitBucket, git, Atlassian Confluence & Jira. ▪ SQL. DBMS: Microsoft SQL Server, MySQL, PostgreSQL, Oracle, SAP HANA. ▪ Web development: HTML, CSS, JavaScript. ▪ Linux, bash, vim, Eclipse, Visual Studio, Elasticsearch.
	Good	▪ Cloud (Oracle OCI & ADB, Amazon AWS). Big Data (Hadoop, Hive, Spark). ▪ Machine Learning concepts and tools. Applications & integration. Python. ▪ LAMP (Linux, Apache, MySQL, PHP) for web development. AJAX, jQuery. ▪ C# for Microsoft's .NET Framework. ASP.NET.
Certifica-tions		▪ Microsoft Certified Technology Specialist (**MCTS**): .NET 3.5, SQL Server 2008, Windows Server 2008. Click here to validate (enter 857732 and MCPpr0ven). ▪ Adobe Certified Associate for Rich Media Communication using Adobe **Flash**. ▪ European Computer Driving License (**ECDL**) Core Certificate.

Selected publications and conferences

Patent, 2022	Assignee: SAP SE. Inventors: T. Scheuer, **I. Psaroudakis**, A. Sellami, N. May, A. Ailamaki. "Adaptive table placement in NUMA architectures". U.S. Patent 11,275,721.
Patent, 2021	Assignee: Oracle. Inventors: A. Mumcuyan, **I. Psaroudakis**, M. Cepek, R. Patra. "Name matching engine boosted by machine learning". U.S. Patent Application 16989306.
USENIX ATC, 2021	V. Trigonakis, JP Lozi, T. Faltín, N. Roth, **I. Psaroudakis**, A. Delamare, V. Haprian, C. Iorgulescu, P. Koupy, J. Lee, et al. "aDFS: An Almost Depth-First-Search Distributed Graph-Querying System".
OPODIS, 2020	S. Firmli, V. Trigonakis, JP Lozi, **I. Psaroudakis**, A. Weld, D. Chiadmi, S. Hong, H. Chafi. "CSR++: A Fast, Scalable, Update-Friendly Graph Data Structure".
Patent, 2020	Assignee: Oracle. Inventors: **I. Psaroudakis**, S. Kaestle, DJ Goodman, J. Lozi, M. Grimmer, TL Harris. "Language interoperable runtime adaptable data collections". U.S. Patent 10,803,087.
Patent, 2020	Assignee: SAP SE. Inventors: A. Ailamaki, T. Scheuer, **I. Psaroudakis**, N. May. "Task scheduling for highly concurrent analytical and transaction workloads". U.S. Patent 10,545,789.
EuroSys, 2018	**I. Psaroudakis**, S. Kaestle, M. Grimmer, D. Goodman, J.-P. Lozi, T. Harris. "Analytics with smart arrays: adaptive and efficient language-independent data".
Book, 2017	A. Ailamaki, E. Liarou, P. Tözün, D. Porobic, **I. Psaroudakis**. "Databases on Modern Hardware: How to Stop Underutilization and Love Multicores". Book published by Morgan & Claypool.
VLDB, 2017	**I. Psaroudakis**, T. Scheuer, N. May, A. Sellami, A. Ailamaki. "Adaptive NUMA-aware data placement and task scheduling for analytical workloads in main-memory column-stores".
Patent, 2016	Assignee: SAP SE. Inventors: A. Ailamaki, T. Scheuer, **I. Psaroudakis**, N. May. "Parallel execution of parsed query based on a concurrency level". U.S. Patent 9329899.
VLDB, 2015	**I. Psaroudakis**, T. Scheuer, N. May, A. Sellami, A. Ailamaki. "Scaling Up Concurrent Main-Memory Column-Store Scans: Towards Adaptive NUMA-aware Data and Task Placement".
TPCTC, 2014	**I. Psaroudakis**, F. Wolf, N. May, T. Neumann, A. Böhm, A. Ailamaki, K.-U. Sattler. "Scaling up Mixed Workloads: a Battle of Data Freshness, Flexibility, and Scheduling".
DaMoN, 2014	**I. Psaroudakis**, T. Kissinger, D. Porobic, T. Ilsche, E. Liarou, P. Tözün, A. Ailamaki, W. Lehner. "Dynamic Fine-Grained Scheduling for Energy-Efficient Main-Memory Queries".
ADMS, 2013	**I. Psaroudakis**, T. Scheuer, N. May and A. Ailamaki. "Task Scheduling for Highly Concurrent Analytical and Transactional Main-Memory Workloads".
VLDB, 2013	**I. Psaroudakis,** M. Athanassoulis, and A. Ailamaki. "Sharing Data and Work Across Concurrent Analytical Queries".
PC member	SIGMOD 2021 (industrial track), SIGMOD 2019 (research track), IEEE TPDS 2019

Awards and distinctions

2019	1st team award at UK's Fincancial Conduct Authority's 2019 AML & Financial Crime TechSprint
2015	Ranked 2nd place in the ACM SIGMOD programming contest
2011	Fellowship award -- awarded by the EPFL IC Doctoral School to outstanding first year PhD students.
2010	Onassis Foundation Scholarship Recipient to attend the Onassis Science Lecture Series 2010
2007	Imagine Cup (global student competition by Microsoft) – IT Challenge – Ranked 10th
Apr. 2003	European Parliament, Strasbourg, France. Won a scholarship by Euroscola for a one-week visit.

Memberships

2014 – 2020	ACM (Association for Computing Machinery) member
2010 – now	Member of the Technical Chamber of Greece (TEE)
2007 – 2011	Microsoft Student Partner in Greece. Active participation with presentations, videos and training. For my presentations, please visit my personal website. Awarded with MSDN Ultimate subscriptions.

Personal skills

Languages	▪ **English** – Fluent (Certificate of Proficiency in English, University of Cambridge). ▪ **French** – Very good (DELF 2nd Degré – Unités A5/6). ▪ **German** – Conversational (Goethe Zertifikat B1). ▪ **Greek** – Native speaker.
Competences	▪ **Planning**: Expertise in prioritization, budgeting, incident handling, and CAPA processes. ▪ **Social**: Frequent cooperation with teammates for the successful completion of projects. ▪ **Problem-Solving:** Worked on multiple projects which required extensive analysis and research. ▪ **Ability to multitask:** Worked in more than one project at the same time with success.