VASILIS MAGEIRAKOS

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EDUCATION

University of Patras, Polytechnic School, Greece **Sept 2016 – Sept 2022**
Integrated Masters in Electrical and Computer Engineering (5-year degree), **GPA**: 8.38/10
Thesis: "Big Data Distributed Stream Processing with Apache Spark", **Grade**: 10/10

Lyceum Varis, Greece **Sept 2013 – June 2016**
Apolytirion **GPA**: 18.7/20
Academic Excellence Award by the Greek Ministry of Education and Religious Affairs

PUBLICATIONS

- Mancini, R., Karthik, S., Chandra, B., Mageirakos, V., & Ailamaki, A. (2022, June). Efficient massively parallel join optimization for large queries. In Proceedings of the 2022 International Conference on Management of Data (pp. 122-135).
- Mageirakos, V., Mancini, R., Karthik, S., Chandra, B., & Ailamaki, A. (2022, May). Efficient GPU-accelerated Join Optimization for Complex Queries. In 2022 IEEE 38th International Conference on Data Engineering (ICDE) (pp. 3190-3193). IEEE.
- Di Girolamo, A., Legger, F., Paparrigopoulos, P., Schovancová, J., Beermann, T., Boehler, M., ... & Tuckus, N. (2021). Preparing distributed computing operations for the HL-LHC era with Operational Intelligence. Frontiers in big Data, 4.

EXPERIENCE

EPFL - Ecole Polytechnique Federal de Lausanne, Switzerland **July - Sept 2021**
Research Intern, Data Intensive Applications & Systems (DIAS) Lab
- Conducted research on Join Order Optimization for very large join queries at the hundredth/thousand relation scale
- Designed a novel query graph conscious heuristic to utilize GPU-accelerated DP algorithm, and implemented it in PostgreSQL
- Improved the state-of-the-art by up to 7x on optimization quality, while being nearly the fastest heuristic overall
- *Distinction*: Published at *SIGMOD '22* (full paper) and *ICDE '22* (demo paper)

CERN - European Organization for Nuclear Research, Geneva, Switzerland **May - Aug 2020**
Google Summer of Code 2020 Participant, Scientific Data Management team (Rucio)
- Developed an open-source Question-Answering system to support scientists using the Rucio database [code] | [docs]
  - Used data from emails, GitHub issues and project documentation
  - Encrypted private user data using Stanford NER tagger and salted hashes
  - Regex-pattern based question detector to extract questions from corpus
  - Custom search engine to retrieve relevant documents based on BM25 and LSI topic modeling
  - Answer detector using the BERT transformer model pretrained on the SQuAD 2.0 dataset
- Distinction: Published at *Frontiers in Big Data '22* and presented at *"Google DevFest Hellas 2020"* conference

Thenamaris, Athens, Greece **July - Sept 2019**
Machine Learning Intern, Procurement Department
- Developed a clustering ensemble model of K-Means and DBSCAN to evaluate vessel resupply opportunities across all world ports
- Achieved over 75% accuracy on evaluation task for fresh food resupplies
- Created training dataset from data warehouse, and engineered features by modeling an expert's decision-making process
- Led data labelling efforts, providing an interface for employees to distinguish between good and bad resupply opportunities
- Distinction: Work presented at *"ShipIT 2019"* conference of technological innovations in maritime industry

LEADERSHIP AND EXTRACURRICULAR EXPERIENCE

EUROAVIA
The European Association of Aerospace students with over 2000 members across 42 universities in 18 countries
President, Patras Branch ***May* 2018- Oct 2019**
- Hosted the first ever "*Airbus Sloshing Rocket Workshop*", an international rocketry competition with over 50 participating teams
- Organized "*20 Minutes of Innovation 2019*" event as part of the largest technological innovation exhibition in Greece (PatrasIQ)
- Established funding collaborations with the University of Patras and industry companies

Board member, Patras Branch ***Jan* 2017- Oct 2020**
- Co-founded the local Patras branch
- Led and/or was part of the model rocket team, the organization of annual events like "20 Minutes of Innovation", airbase and company visits, and Aeroclub Araxos visits where we got to fly planes
- Presented to thousands of students throughout our events, and grew the team from 5 to over 50 members, making it one of the most active student groups in Patras

SKILLS

Certifications: Duke University: Managing Big Data with MySQL, Coursera: Machine learning, Deep Learning Specialization
Technical: Python, C/C++, Java, JavaScript, SQL, PyTorch, NLTK, spaCy, matplotlib, pandas, NumPy, MySQL, MongoDB, PostgreSQL, Docker, Git
Languages: Greek (Native), English (Fluent), German (B1)