

Vangelis Kourlitis PhD

Data Engineering | Machine Learning | ex-CERN

PROFILE

Data engineer and software developer with 10 years experience in technical projects and leadership positions at CERN. Specialized in developing scalable pipelines in big data analytics and machine learning domains, with a proven track record of optimizing workflows and delivering impactful solutions. Now seeking to apply my expertise in the tech industry to drive innovation and help organizations make data-driven decisions at scale.

CONTACT

Location: Thessaloniki, Greece
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SKILLS

Programming

Python • SQL • C++ • Bash

Cloud & DevOps

GCP • AWS • Docker • Git (CI/CD)

Distributed Compute

Dask • Apache Spark • Ray

Workflow Schedulers

HTCondor • Slurm

EDUCATION

ATHENA RESEARCH CENTER

Athens Natural Language Processing Summer School
2024 | Athens, GR

UNIVERSITY OF SHEFFIELD

PhD in Physics
2015 - 2019 | Sheffield, UK

ARISTOTLE UNIVERSITY OF THESSALONIKI

B.Sc. in Physics
2009 - 2015 | Thessaloniki, GR

EXPERIENCE

TECHNICAL UNIVERSITY OF MUNICH & CERN | Geneva, CH Analysis Model Group Coordinator

Oct 2023 - Dec 2024

- Directed a global, 120-member cross-functional team delivering 24/7 production support and new features for a ~1 M LOC data analysis platform serving more than 3,000 users.
- Achieved 3x reduction in organizational data storage costs by adoption of a lightweight columnar data format ahead of schedule.
- Rolled out streamlined software configuration paradigm, reducing analysts onboarding time by over 95%.
- Planned and supervised fixed price/time projects (€10-20k, 3-6 months) for early-career developers, delivering innovative data engineering products on time and fostering professional growth.

Data Science Researcher

Mar 2023 - Sept 2023

- Awarded €40k grant to modernize legacy ETL tools for big data stream analysis ($O(100\text{ TB})$) with scalable array-based solutions, achieving 4x higher throughput and aligning with industry data science standards.

ARGONNE NATIONAL LABORATORY | Chicago, US

Data Science Researcher

Nov 2019 - Feb 2023

- Led a team of 7 researchers in applying advanced analysis algorithms and deep learning for complex data classification, increasing analysis coverage by 12%.
- Developed an end-to-end CNN computer vision model, with multi-GPU training strategy in PyTorch and MLflow, to improve simulation software cost-efficiency by up to 20%.
- Benchmarked novel accelerator SambaNova RDU against NVIDIA GPUs on autoencoder-based anomaly detection model, achieving a 10x throughput increase and enabling timely insights from large-scale datasets.
- Established FAIR principles for AI models and standardized methodologies among international research teams, allowing faster review cycles and enhanced transparency across projects.
- Stress-tested Google Cloud Platform's readiness and scalability for big data analysis workflows, minimizing TCO by optimizing egress.

UNIVERSITY OF SHEFFIELD | Sheffield, UK

Doctoral Researcher

Nov 2015 - Oct 2019

- Authored the first technical report at CERN to open source a complete statistical model, setting a precedent for reinterpretation and transparency in the field.
- Developed and maintained data analysis software across the full development lifecycle, enabling high-throughput distributed computations on a 500k core computing grid.
- Taught Python programming, scientific computing and ML fundamentals to MSc students through hands-on lab sessions.