

# Dimitris Selis

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## RESEARCH SCOPE

Cloud-Edge Computing, Elastic resource management, ML for Systems, Reinforcement Learning

## EDUCATION

### Polytechnic University of Catalonia (UPC)

PhD in Telecommunications Engineering

Advisors: Luis Alonso Zárate & Christos Verikoukis

**Dissertation:** Elastic Resource Management and Scheduling in Cloud-Edge Infrastructures for Beyond 5G Autonomous Networks.

Jan 2023 – Present  
Barcelona, Spain

### University of Patras

MEng in Computer Engineering

**Thesis:** Designed and deployed a container-based weather forecasting platform on GKE.

Oct 2014 – Sep 2021  
Patras, Greece

## EXPERIENCE

### Athena Research & Innovation Center

Collaborating Researcher

Jan 2023 – Present  
Athens, Greece

- Designed, built and evaluated Kubernetes-based cloud-edge distributed systems, improving scalability, reliability and performance under workload uncertainty.
- Technical contribution to EU-funded large-scale engineering projects, including system architecture design, implementation planning and cross-team coordination.

### Saphetor

Software Engineer / Research Intern

Sep 2021 – Mar 2022  
EPFL Lausane, Switzerland

- Developed anomaly detection pipelines for genomic data.
- Designed end-to-end data analysis workflows.

## CONFERENCE PUBLICATIONS

- D. Selis, K. Ramantas, L. Alonso, J. S. Vardakas and C. Verikoukis, "KARMA: Knowledge Aware Resource Management and Auto-scaling for cloud-edge workloads", in Proceedings of the IEEE Global Communications Conference (GLOBECOM 2025), in press.
- D. Selis, K. Ramantas, L. Alonso, J. S. Vardakas and C. Verikoukis, "ADDAPT6G: Advanced Double Dueling Architecture for Proactive Tuning in 6G Networks," ICC 2025 - IEEE International Conference on Communications, Montreal, QC, Canada, 2025, pp. 1857-1862 doi:10.1109/ICC52391.2025.11160944
- Y. Kyriakopoulos, D. Selis, K. Ramantas and C. Verikoukis, "Scaling-Ops: SLA-Compliant Resource Management via Offline Reinforcement Learning Pipeline," 2025 IEEE Conference on Network Function Virtualization and Software Defined Networks (NFV-SDN), in press.
- G. Famitafreshi, M. Trigka, D. Selis, J. Vardakas and C. Verikoukis, "An Innovative Multi-Scale Strategy-Based Decision Engine for Zero-Touch Management and Orchestration in 6G," 2024 IEEE 29th International Workshop on Computer Aided Modeling and Design of Communication Links and Networks (CAMAD), Athens, Greece, 2024, pp. 1-6, doi:10.1109/CAMAD62243.2024.10942611

## JOURNAL PUBLICATIONS

- D. Selis, K. Ramantas, L. Alonso and C. Verikoukis, "MIND the Proximity: A Transformer-based RL Scheduler and Placement Optimizer for Cloud-edge Workloads, *IEEE Transactions on Cloud Computing*, under review.

## AWARDS

### IEEE CSIM 6G Industrial Dissemination Day (IDD) Award

Recognized for excellence in originality, technical rigor and industry relevance of research contributions. Awarded travel sponsorship for IEEE ICC 2025

2025

## TEACHING EXPERIENCE

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### Teaching Assistant

5G Architectures, enabling technologies and KPIs (CEIDNE577)

Spring 2024, Spring 2025  
CEID, University of Patras

### Teaching Assistant

Fundamentals of Cellular Networks (CEIDNE592)

Fall 2024  
CEID, University of Patras

## STUDENT ADVISEES

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### Yannis Kyriakopoulos MEng CS

SLA-Compliant Resource Management via Offline Reinforcement Learning

2024-2025

## TECHNICAL SKILLS

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### Orchestration & Monitoring

Docker · Kubernetes · Prometheus · Grafana/K6 · KEDA

### Machine Learning & Deep Learning

PyTorch · StableBaselines3 · TensorFlow · Transformers/Hugging Face

### MLOps

KubeFlow · SageMaker

### Data Storage & Indexing

Relational: MySQL · PostgreSQL · SQLite

Time-series: InfluxDB

Vector-search: Qdrant

### Programming

Bash · Python · C++ · Go · Javascript

## LANGUAGES

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**Greek** Native

**English** Fluent

**French** Upper Intermediate

**Spanish** Conversational

## REVIEWER / PROGRAM COMMITTEE

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### IEEE Networking Letters

2024-2026

### IEEE International Conference on Cloud Networking (Cloud-Net)

2026

### IEEE Conference on Network Function Virtualization and Software Defined Networks

2025

### IEEE Global Communications Conference (GLOBECOM)

2025

### IEEE International Workshop on Computer Aided Modeling and Design of Communication Links and Networks (CAMAD)

2024