

Christos Kylafas

Software Developer & PhD Researcher | IoT · React · Machine Learning

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SUMMARY

Software developer and PhD candidate in Computer Science at the University of Thessaly, working on intelligent data management for IoT and edge networks. Builds production frontends in React and Material-UI for EU-funded Horizon projects (TRACE, ELLIE), real-time IoT dashboards on Kafka streams, XR applications in Unity, and IoT hardware prototypes. Published in Springer *Computing* and IEEE MDM 2026.

WORK EXPERIENCE

Researcher & Software Developer 09/2023 – Present

University of Thessaly, Dept. of Informatics and Telecommunications, Lamia, Greece

- **TRACE** (Horizon Europe, logistics and fleet management, 09/2023 – present): built the platform frontend in React, Material-UI and Mapbox GL JS, covering route visualization, fleet, depot, shipment and scheduling workflows connected to REST APIs.
- Developed real-time IoT dashboards that consume Kafka streams for sensor monitoring and anomaly detection.
- Designed and built a physical IoT sensor box for environmental monitoring and a smart locker prototype with automated open/close logic, both integrated into the TRACE platform.
- **ELLIE** (Horizon Europe, cultural heritage, 01/2024 – present): developed a React museum digital twin application, a sensor dashboard and VR/AR experiences with Unity, Blender, Cesium for Unity and Meta XR SDK.
- Wrote technical sections of project deliverables and teach exercise sessions to undergraduate students.

Technician & Sales Representative 11/2011 – 01/2012

Germanos S.A.

- Repaired and configured mobile phones and tablets; promoted products and services to customers.

Web Developer 11/2009 – 07/2010

NP3

- Developed websites, designed and built their databases, and created graphics for web applications.

Intern 09/2009 – 02/2010

OSE – Hellenic Railways Organization

- Rotated through the telephone center, signaling and wireless equipment repair departments.

PUBLICATIONS

Kylafas, C., Kolomvatsos, K., “Adaptive Multi-Level Clustering with Dynamic Representative Selection for Data Redundancy Reduction in IoT Networks,” *Computing*, Springer, 2026. doi:10.1007/s00607-026-01777-z

Kylafas, C., Kolomvatsos, K., “Probabilistic Clustering with Temporal Prediction for Adaptive Data Management in IoT Networks,” *Computing*, Springer, 2026. doi:10.1007/s00607-026-01759-1

Fountas, P., Tymplalexis, N., Ntatis, K., **Kylafas, C.**, Papakotoulas, A., Papataxiarhis, V., Kolomvatsos, K., Hadjiefthymiades, S., “Resources and Events Management in Synchromodal Logistic Operations,” *27th IEEE International Conference on Mobile Data Management (MDM 2026)*, DCSSL Workshop, Athens, Greece, pp. 524–529, 2026. doi:10.1109/MDM71479.2026.00087

EDUCATION

PhD in Computer Science (in progress) 12/2023 – Present

University of Thessaly · Thesis: Intelligent Data Management in Distributed Environments

Master of Science (MSc) 02/2022 – 07/2023

University of Thessaly · Security of Computer and Telecommunication Systems, Big Data Management and Simulation

BSc in Information Technology and Telecommunications 02/2006 – 07/2010

Technological Educational Institute of Kalamata (Sparta)

Technical High School Diploma, Electronics 09/2001 – 06/2005

2nd Technical Vocational School of Lamia · Computer Systems and Networks, Audiovisual Systems, Device Installation and Computer Units

SKILLS

Frontend	React, Material-UI, JavaScript (JSX), HTML, CSS, Mapbox GL JS
Data & IoT	Apache Kafka, real-time dashboards, IoT sensor prototyping, SQL, PHP
Machine Learning	Python, PyTorch, TensorFlow, MATLAB/Simulink, R
XR & 3D	Unity, C#, Blender, Cesium for Unity, Meta XR SDK
Other languages	C/C++, Visual Basic
Tools	Git/GitHub, Photoshop

LANGUAGES

Greek – Native

English – C2 (LanguageCert Level 3, ESOL International)

CERTIFICATIONS

Cambridge Skills Award in IT Skills, Foundation Level

INTERESTS

Kickboxing · Music (bass, guitar, tuba) · Basketball · Travel