

Konstantinos Roumpas

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EXPERIENCE

Nov 2025 — Present

Researcher & Technical Manager Frontier Innovations • Athens, Greece

- Write and manage Horizon Europe proposals end to end, from concept through submission.
- Lead technical direction across concurrent EU-funded projects, coordinating researchers and engineers.
- Design dashboards consolidating outputs from separate project modules into one operational interface.

Sep 2024 — Sep 2025

Researcher & Teaching Assistant University of Patras • Patras, Greece

- Built machine learning models in Python and PyTorch inferring cognitive state from eye-tracking, behavioural data and interaction logs.
- Designed and ran controlled user studies with physiological manipulation checks, including a randomised crossover protocol.
- Published four peer-reviewed papers and one open dataset; reviewed five manuscripts for two journals.
- Taught on Software Quality and supervised an undergraduate project through to publication.

Jan — Jul 2024

Learning Experience Designer & Team Leader ATERMON B.V. • Rotterdam, Netherlands (Remote)

- Designed AI-supported learning modules with data-driven personalisation for EU-funded projects.
- Led design decisions across digital learning, accessibility and human-AI collaboration workstreams.

Oct 2021 — Jan 2024

Instructional Designer & Developer Asserted Knowledge O.E. • Athens, Greece (Remote)

- Grew from sole developer to leading a team of seven engineers and designers.
- Shipped a portfolio of 50+ educational games and tools across EU-funded projects.
- Organised and led educator workshops and Erasmus+ training activities across partner countries.

SELECTED WORK

Gaze Reconstruction

Physics-informed neural network in PyTorch predicting on-screen gaze; outperformed a conventional baseline, raising vertical-gaze R-squared from 0.85 to 0.91. Published in *Expert Systems with Applications*.

CourseCrafter

AI-assisted authoring tool letting educators build Minecraft Education courses without coding. Evaluated with 10 educators using the System Usability Scale and semi-structured interviews.

Blink Input Filtering

Method separating voluntary from involuntary blinks for hands-free input, validated as robust under induced stress. Open dataset published on Zenodo.

EDUCATION

2023 — 2027 (expected)

PhD, Computer Engineering & Informatics University of Patras • Human-computer interaction and applied machine learning

2016 — 2022

BSc, Physics Aristotle University of Thessaloniki • Computational physics, data analysis, non-linear systems

TOOLKIT

Building

Python, PyTorch, scikit-learn, R, SQL, MATLAB, SPSS, Git, LaTeX

Designing

Figma, dashboard and interaction design, data visualization, Power BI

Measuring

Experimental design, statistics, cross-validation, usability testing, user interviews, eye-tracking and biosignal analysis, explainable AI

ALSO

Service

Peer reviewer, *Cognitive Systems Research* (Elsevier) and *IRRODL* — five reviews. Registered trainer, University of Patras Lifelong Learning Centre.

Certified

SQL (LearnSQL.com), Microsoft Azure Fundamentals, Power BI, Moodle Developer Basics, UX & Design Thinking

Languages

Greek (native), English (full professional — ECPE, University of Michigan)

Portfolio

Full publication list, datasets and project case studies at kroumpas.github.io