IOANNIS CHRISTOFILOGIANNIS

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EDUCATION

MSc Computer Science: Intelligent Systems – Trinity College Dublin *Aug 2025 – Aug 2026*
 • Thesis: Multi-agent Reinforcement Learning for Travel Time Reliability (Supervisor: Prof. Vinny Cahill)
MEng Electrical & Computer Engineering (8.13/10) – Technical University of Crete *Sep 2019 – May 2025*
 • Thesis: Feature Selection in Federated ML – derivative work won Best Student Paper Award (FLTA IEEE 2025)
 • Relevant coursework: Reinforcement Learning, Multiagent Systems, Computer Security, Distributed Systems (90%+ grades)

PUBLICATIONS

FLASH: Federated Learning with Attribute Selection and Hyperparameter Optimization [IEEE Xplore]
I. Christofilogiannis, G. Valavanis, A. Shevtsov, I. Lamprou, S. Ioannidis – ***Best Student Paper Award***, FLTA IEEE 2025,
Dubrovnik. Integrated into NVIDIA FLARE & Flower.
Automatic Detection of Fin, Operculum & Skin Deformities in Mediterranean Fish [Aquacultural Engineering]
I. Christofilogiannis et al. – Accepted, Aquacultural Engineering Journal, 2025
Non-Invasive Monitoring of Fish Morphometric Traits Using YOLO-Based CV in Aquaculture
D. Georgopoulou, ..., I. Christofilogiannis, N. Papandroulakis – Aquaculture Europe 2025, Valencia

EXPERIENCE

ML & Computer Vision Researcher – Hellenic Center for Marine Research *Oct 2024 – Jul 2025*
 • Developed AI-assisted annotation GUI and trained large-scale YOLO models for fish disease prediction (Cure4Aqua EU)
 • Work resulted in a journal publication (Aquacultural Engineering) and a conference paper (Aquaculture Europe 2025)
Federated Learning Summer School – Univ. de Santiago de Compostela *Jul 2025*
 • Hands-on workshops with Flower, NVIDIA FLARE, Scaleout, P2PFL; ongoing research on client rescheduling
ML Research Intern – Heriot-Watt University, BCML Lab *Jul – Aug 2023*
 • Developed ML algorithms for anomaly detection in fish gill analysis; automated QuPath biomedical workflows
Software Engineer – TUCer Eco Racing Team (Volunteer) *Jan – Jun 2023*
 • Implemented autonomous driving algorithms with ROS/Python; competed in Shell Eco Marathon 2023, Nogaro, France

SELECTED PROJECTS

FLASH Framework – Federated Learning, Python, Docker [GitHub]
 • Novel framework enabling conventional ML feature selection in federated settings with Feature Election algorithm
Feature Election in Flower – Federated Learning, Open-Source Contribution [Pull Request]
 • Contributed Feature Election algorithm to the Flower federated learning framework
Feature Election in NVFlare – Federated Learning, Open-Source Contribution [Pull Request]
 • Contributed Feature Election algorithm to NVIDIA FLARE federated learning platform
YOLO AI-Assisted Annotation Tool – Computer Vision, Python GUI [GitHub]
 • AI-assisted annotation tool with YOLO integration for binary classification; used in aquaculture research
Hybrid Search Engine – Apache Lucene, Sentence Transformers [GitHub]
 • Lightweight BM25 + neural semantic search with Reciprocal Rank Fusion; +27% MAP over baseline
Map-Reduce on Kubernetes – Distributed Systems, Flask [GitHub]
 • Scalable distributed computing with Kubernetes, Longhorn storage, and real-time cluster monitoring
Mac Vision Tools – macOS, Computer Vision, Python [GitHub]
 • Open-source macOS menu bar app for real-time ML-powered detection with multiple modes
The Negotiator – Machine Learning, Game Theory, Python [GitHub]
 • Neural network-based negotiation agent that learns optimal strategies for multiagent systems
3D Puzzle-Adventure Game – Unity, C#, 3D Graphics [GitHub]
 • Custom Unity game with original artwork, advanced 3D graphics techniques, and innovative puzzle mechanics

SKILLS

Programming: Python (advanced – ML/AI, GUI), C/C++ (advanced – systems, ROS, embedded), Java, C#, SQL, VHDL, Groovy
Tools: PyTorch, TensorFlow, YOLO, scikit-learn, Docker, Kubernetes, ROS, Git, Flask, Unity, Linux/macOS/Windows
Languages: Greek (native), English (IELTS 8.0), Chinese (HSK2), French (A1)

REFERENCES

Available upon request from: Prof. S. Ioannidis & Prof. T. Spyropoulos (TU Crete), Dr. N. Papandroulakis (HCMR), Dr. A. Alnabulsi (EpitogenX),
Prof. W. Pang (Heriot-Watt)