

KONSTANTINOS GEORGIOU

Machine Learning Engineer

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SUMMARY

- I have eight years of AI experience, covering both research and practical industry applications in computer vision, NLP, software, and data engineering.
- Currently a PhD candidate at the University of Tennessee, graduating in December 2025, and seeking a summer internship to apply my research insights in real-world AI initiatives.
- Presented work at major conferences like NeurIPS and contributed to [open-source initiatives](#) on GitHub, demonstrating a strong commitment to practical AI solutions and collaborative knowledge sharing.

EXPERIENCE

2024 - Now

• CoFounder

XPensAI Ltd - United Kingdom

Skills: Computer Vision · Generative AI · SaaS Development · APIs · Cloud Infrastructure · AWS · Azure

- Launched an AI-powered SaaS platform used by over 30 small and medium-sized businesses, reducing manual expense entry by an estimated 65%.
- Led the development and deployment of core AI algorithms for automated expense tracking, real-time analytics, and receipt processing, improving processing speed by 120% over the baseline implementation.
- Oversaw the integration of advanced deep learning and computer vision solutions, achieving 95% accuracy on receipt scanning and ensuring scalable deployment.

2021 - Now

• Machine Learning Researcher

University of Tennessee - US

Skills: PyTorch · Deep Learning · Computer Vision · LLMs · Finetuning · Research · DDP · Foundation Models · Multi-modal Datasets

- Conducted research on a self-supervised framework using evolving masking strategies and teacher-guided distillation to learn robust visual representations for downstream tasks.
- Created a random feature masking strategy for Transformer and Neural ODE models that raised Macro F1 by 6% and cut key feature reliance by 15%, improving detection robustness and interpretability for dementia prediction.
- Enhanced research in masked image modeling by tailoring scale factors for multi-modal remote sensing data, achieving an average accuracy improvement of 5% over the state-of-the-art across 4 datasets.
- Developed novel fine-tuning strategies for a multi-modal self-supervised model, reducing training time by 32% and improving Macro F1 scores by 5.4% for the client's phase detection pipeline.
- Led innovative research in LLM security, uncovering crucial ground rules for ensuring secure code generation.

2019 - 2021

• Data Engineer

Performance Technologies S.A - Greece

Skills: TensorFlow · Data Engineering · Software Engineering · Machine Learning · GCP · Apache Spark · Docker · ETLs

- Led the rapid completion of a critical terabyte-scale data replication project for Greece's leading [telecommunications provider](#), reducing replication time from days to minutes and ensuring real-time views for ETL and analytics.
- Spearheaded the development of a machine learning model to predict order fulfillment times, which, following a comprehensive analysis of business operations and consultation with clients, resulted in a 34% reduction over previous baseline.
- Managed the design and implementation of a SIP call quality benchmarking service, successfully deployed across vital public institutions, facilitating improved service monitoring and enabling the Greek government to credit service providers.

2018 - 2019

• Machine Learning Researcher

University of Patras - Greece

Skills: Python · Community Detection · Algorithm Design · Machine Learning · Apache Spark · Docker · Graph Models · Research

- Conducted intensive machine learning research, specializing in graph theory and network analysis.
- Reduced the execution time of the Girvan-Newman community detection [algorithm](#) by 84%, creating the first scalable solution while maintaining high accuracy and securing [publication](#) in the Algorithms journal.

2017 - 2018

• Software Engineer

Global Voices Ltd - UK

Skills: Python · Software Engineering · Operating systems · SQL

- Played a pivotal role in developing and maintaining the company's proprietary content management system, significantly reducing bugs, implementing new features, overseeing code reviews, improving system functionality and user experience.
- Optimized the company's continuous integration and deployment pipelines, enhancing the efficiency and reliability of product releases, resulting in a 50% reduction in rollbacks and ensuring a streamlined development cycle.

EDUCATION

2025

• PhD in Data Science & Engineering

University of Tennessee

- Received Fellowship Award from the University of Tennessee Graduate School and Tickle College of Engineering.
- Mastered the intricacies of ML by designing and implementing machine learning models from scratch, including [CNNs](#) and [RL agents](#), and delving into Reinforcement Learning and advanced statistical concepts such as Bayesian formulation and hidden Markov models, setting a strong base for innovative solutions in the field.
- Implemented a Koopman-based method for transient event detection, improving the average temporal error by 21.5 days.

2019

• Integrated Master's in Computer Science & Engineering

University of Patras

- Developed an innovative distributed algorithm for community prediction in social graphs, achieving significant improvements in scalability and accuracy.

PUBLICATIONS

- *Trustworthy AI for Early Dementia Detection: Robust Feature Masking and Clinical Interpretability.* - [CHASE 2025 \(Accepted\)](#)
- *Improving Masked Image Modeling with Adaptive Masking and CLIP Distillation.* - [ICCV 2025 \(Under Review\)](#)
- *Advancing Multi-scale Remote Sensing Analysis through Self-Supervised Learning Fine-tuning Strategies.* - [IEEE IGARSS 2024](#)
- *Koopman-based Transition Detection in Satellite Imagery.* - [IEEE IGARSS 2024](#)
- *Occasionally Secure: A Comparative Analysis of Code Generation Assistants.* - [Arxiv 2024](#)
- *Cross-Scale MAE: A Tale of Multi-scale Exploitation in Remote Sensing.* - [NeurIPS 2023](#)
- *Semantic Segmentation in Aerial Imagery using Multi-level Contrastive Learning with Local Consistency.* - [WACV 2023](#)
- *A Distributed Hybrid Community Detection Methodology for Social Networks.* - [Algorithms 2019](#)