

Fivos Allagiotis

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EDUCATION

Carnegie Mellon University	Pittsburgh, PA
M.S. in Information Technology – Information Security	Jan 2023 – Jan 2025 GPA: 3.93
University of Patras	Patras, GR
M.S. in Computer Engineering	Oct 2021 – Jun 2022 GPA: 3.63
University of Patras	Patras, GR
B.S. in Computer Engineering	Oct 2017 – Aug 2021 GPA: 3.30

EXPERIENCE

AI/ML Software Engineer Pervaziv AI	Feb 2025 – Present Sunnyvale, CA
• Built an agentic IDE extension using Google ADK and MCP connectors for secure code generation workflows (100+ users) • Contributed to Meta's PurpleLlama project, enabling secure code benchmarking for fine-tuned LLMs including Gemini • Optimized LLMs using RAG techniques and external knowledge bases, improving code understanding accuracy by 27%	
Machine Learning Engineer Intern Pervaziv AI	May 2024 – Aug 2024 Mountain View, CA

• Designed, implemented, and deployed SecOps features using fine-tuned **Gemini** and **OpenAI** models for **NLP and GenAI tasks**
• Increased ML-based vulnerability detection rate by **430%** through advanced feature engineering and model optimization
• Reduced ML inference time by **65%** for **AI-driven code remediation** by optimizing data pipelines and model deployment

Machine Learning Researcher
University of Patras

Feb 2020 – Jun 2022
Patras, GR

• Published **3 peer-reviewed papers** on applying machine learning to optimize **5G networks performance and resource allocation**
• Authored a **40-page book chapter** on emerging ML techniques used in **5G Networks**, focusing on data-driven optimization
• Presented findings in **3 accredited 5G international conferences**

PROJECTS

ML-Based Fraud Detection System with Agentic Analysis Real-Time & Batch Transaction Monitoring	Oct 2025 – Jan 2026 Python, Google ADK, AWS
• Developed an ML-based fraud detection system using XGBoost for real-time transaction classification with 99% accuracy • Implemented AI agents for temporal pattern analysis, enabling cross-transaction correlation for enhanced fraud detection	
Practicum Project - Data Science CMU/Heinz - AdBlocker Project	Aug 2024 – Dec 2024 Python, Apache Spark, Pandas
• Led the analysis of 1TB+ of user interaction data using Apache Spark , building data loaders for large-scale ML experiments • Developed and benchmarked ML models in PyTorch and TensorFlow , focusing on experiment design and evaluation metrics	
Leveraging Generative AI for Log Analysis Tools Investigation of AI-Assisted Log Analysis	Mar 2024 – Apr 2024 Python, LangChain, Agentic AI
• Developed a LangChain-based agent to process and analyze structured and unstructured log data, enhancing forensic analysis • Built a Streamlit UI for interactive data exploration and annotation, supporting user experience and readability	
GNN for C2 Channel Detection Graph Convolutional Neural Networks	Jan 2024 – April 2024 Python, PyTorch, GNNs
• Built and deployed a GNN for sequence and pattern detection, achieving 90.3% detection accuracy in real-world scenarios • Implemented the model in PyTorch using GCNConv library, with experiment tracking and performance analysis	
Machine Learning Techniques to Improve Resource Allocation in 5G Networks Deep Reinforcement Learning	Oct 2022 – Jun 2022 Python, Pandas, TensorFlow
• Developed Deep Reinforcement Learning algorithms for optimal resource allocation in simulated networks , leveraging DNNs • Achieved 300% throughput increase, 150% QoS improvement, and 50% energy consumption using Deep Q-Learning	

PUBLICATIONS

Reinforcement Learning Approach for Resource Allocation in 5G HetNets 2023 International Conference on Information Networking (ICOIN), IEEE	Allagiotis, Fivos, et al. 2023
A Machine Learning Mechanism for Improved Energy Consumption in 5G Small Cells 2022 IEEE Symposium on Computers and Communications (ISCC)	Allagiotis, Fivos, et al. 2022
An Introduction of Upcoming Radio Resource Management Techniques for 5G Networks Advances in Engineering Research, Nova Science Publishers, Inc.	Bouras, Christos, et al. 2022

SKILLS

Programming Languages: Python, SQL, C/C++, Java, JavaScript, Bash, MATLAB	
ML/DL Frameworks: PyTorch, TensorFlow, Keras, Hugging Face, XGBoost, Scikit-learn, spaCy, Ray, PySpark	
LLMs & GenAI: OpenAI, Gemini, Anthropic, Llama, vLLM, RAG, LangChain, DSPy, Google ADK, Hugging Face Transformers	
Cloud & Infrastructure: AWS (SageMaker, EC2, S3, CloudWatch), GCP, Azure, Docker, Kubernetes	
Data & Databases: PostgreSQL, MongoDB, Pinecone, Qdrant, ETL pipelines, vector databases	
Tools & Libraries: NumPy, Pandas, FastAPI, Git, Weights & Biases, MLflow, Streamlit, React.js	