Achilleas Leivadiotis

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ABOUT ME (achilleasleivadiotis.com)

I am a Data Science and Artificial Intelligence student with a passion for machine learning, computer vision, and building full-stack applications. My background spans marketing management, AI-driven research projects, and software development internships. I thrive on cross-functional collaboration, love tackling complex analytical challenges, and aspire to create impactful tech solutions.

WORK EXPERIENCE

AI & Environmental Analyst Trainee, EUROCONTROL MUAC, Computer Vision *Feb 2025 – Present*

- Project Focus: Enhancing aviation environmental efficiency by developing and refining machine learning models for contrail detection and real-time tracking and flight attribution.
- Technical Stack: Utilizing Azure Databricks for scalable data processing and Apache Spark for distributed computing, integrated within Microsoft's Azure ecosystem. Frameworks: Utilizing **Detectron2** for detection and **deepSORT** for tracking.
- Model/Algorithm Development: Leveraging and fine-tuning pre-existing models, specifically enhancing Detectron2 for improved instance segmentation accuracy. Implemented precise flight-attribution algorithms linking detected/tracked contrails to specific flights.

Marketing Manager, SCOPE *Sep 2024 – Present*

- Led the promotion and organization of an international Dublin tech and sales trip.
- Collaborated with cross-functional teams to boost attendance and secure partnerships.
- Developed marketing strategies that increased event visibility and sponsorship.

Software Developer Intern, Next Generation Sensors B.V. *June 2024 – August 2024*

- Using Tech Stack: TypeScript, Angular, MongoDB: Built a new website including support pages, authentication systems, admin dashboards, and client messaging tools.
- Implemented secure RESTful APIs and database schemas to handle user data efficiently.

PROGRAMMING / AI PROJECTS

I've worked on diverse AI and software engineering initiatives, ranging from a 3D MEP Component Location Predictor (for placing mechanical/electrical/plumbing parts in Revit models) and an AI Image Detector (flagging AI-generated images), to a UNO Bot (with Monte Carlo and neural-network strategies) and an Image Recognition Hackathon. I also developed a rocket simulation with physics engines and a Graph Chromatic Number solver(JAVA).

3D MEP Component Location/Type Predictor, Equans S.A.S (Group Project 3-1) *Sep 2024 - Present*

- Built a proof-of-concept AI system that automatically places MEP (Mechanical, Electrical, Plumbing) components in a 3D Revit building model, predicting both (x,y,z) coordinates and type.
- Developed multiple neural-network architectures from scratch (MLP & 1D CNN with depthwise/residual blocks) in PyTorch, leveraging a context window to incorporate adjacent-unit data for improved accuracy.
- Implemented specialized training loops with distance-based loss functions to quantify placement errors, successfully demonstrating the feasibility of an AI-driven approach to MEP component placement.

AI Image Detector, Maastricht University Group Project 2-2, Grade: 9.5 *Mar 2024 - Jul 2024*

- Goal: Predictive modeling to identify AI-generated images.
- Developed Convolutional and residual neural networks, with a front-end interface to upload images and view heatmaps of detection results.

UNO replication with addition of Bots, Maastricht University Group Project 2-1 *Sep 2023 - Jan 2024*

- Recreated the UNO card game with AI-driven bots.
- Built a graphical interface, implemented Monte Carlo search bots and neural-network-based strategy.

EDUCATION

Maastricht University, Data Science & Artificial Intelligence Bachelor *Sep 2022 – present*

Current Modules: Data Analysis, Intelligent Systems

Completed Modules: Calculus (9), Computer Security (9), Data Structures and Algorithms (9), Databases (7), Human Computer Interaction & Affective Computing (10), Introduction to Bio-Informatics (8), Large Scale IT and Cloud Computing (8), Machine Learning (6), Probability and Statistics (7), Simulation and Statistical Analysis (7), Software Engineering (7)

University of New Hampshire, Project SMART – Biotechnology, Online summer Program *July 2020*

- Focused on hands-on lab techniques, genetics, and molecular biology.
- Explored cutting-edge research topics in biotechnology and environmental applications.

Anatolia College High School & Gymnasium Kassandra Middle School *Sep 2017 – July 2020*

- IB Diploma Program (2020–2022) and Lyceum/MYP Program prior.
- Award: Recognized for Academic Excellence by the Greek Ministry of Education (National Merit Program).

OTHER

Languages / Programming: Greek (native), English (fluent), SQL (expert), REST API (Intermediate), MATLAB (expert), HTML (expert), CSS (expert)

Data Science/AI Libraries: Pandas, NumPy, scikit-learn, PyTorch, TensorFlow, OpenCV.

Version Control: Git (GitHub for most projects, GitLab for Project 2-2).

Interests / hobbies: Chess, playing piano, playing guitar, swimming, traveling, spearfishing, fishing, cycling, exploration.