

Achilleas Leivadiotis

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PROFESSIONAL SUMMARY

Data Science & AI graduate who builds production-ready systems across the full stack. Engineered breakthrough ML pipeline achieving 71.75% accuracy for EUROCONTROL aviation contrail monitoring, developed enterprise real estate platform with Next.js 15 and Supabase, and created real-time multiplayer systems with WebSocket architecture. Experienced in computer vision, modern web frameworks and cloud infrastructure. Passionate about solving complex technical challenges and shipping impactful software.

WORK EXPERIENCE

Full-stack Developer | Freelance | Kassandra Properties VIP ([Preview](#))

July 2025- Sep 2025

- Built complete real estate platform from scratch using Next.js 15, React 19, and TypeScript
- Designed responsive UI with Tailwind CSS supporting all device sizes
- Implemented **auth, admin dashboard, property listings, CMS**, and image optimization
- Prepared Stripe payment integration architecture for future booking system

AI Research & Development | EUROCONTROL MUAC | Computer Vision | Thesis Grade 9/10 Feb 2025 – July 2025

- Breakthrough Achievement:** Engineered first validated end-to-end AI pipeline for ground-based contrail monitoring
- Achieved 71.75% flight attribution accuracy using novel 4D→2D geometric and convolution methods
- Optimized Detectron2 Mask R-CNN pipeline achieving ~65% mask mAP for contrail segmentation
- Implemented multi-object tracking with Norfair: 43.3% MOTA, 67.9% IDF1 (vs DeepSORT: 11.3%, 45.5%)
- Processed 30GB+ daily data using Apache Spark on Azure Databricks for scalable inference
- Classified contrails with >90% accuracy across morphology types (short, thin, wide, cirrus)
- Impact: Enables real-time monitoring of aviation's 40% climate warming contribution from contrails

Marketing Manager | SCOPE Maastricht

Sep 2024 – March 2025

- Led marketing for an international Dublin tech & sales trip; cross-team coordination; boosted attendance & sponsorship.

Software Developer Intern | Next Generation Sensors B.V.

June 2024 – August 2024

- 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 (3 Main)

I've worked on diverse AI and software engineering initiatives, ranging from a 3D MEP Component Location Predictor 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).

Multiplayer Card Game ([Live Demo](#))

Mar 2025 – April 2025

- Tech: Real-time WebSockets, Node.js Server, State Management, Vercel Deployment
- Architected real-time multiplayer game supporting concurrent sessions
- Built robust server handling game state, player synchronization, and disconnect recovery
- Clean separation of game logic, networking, and UI layers

3D MEP Component Location/Type Predictor | Equans S.A.S (Group Project 3-1)

Sep 2024 – Jan 2025

- 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.
- 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: 9.5/10

Mar 2024 - Jul 2024

- Developed Convolutional and residual neural networks, with a front-end interface to upload images and view heatmaps of detection results to detect whether an image is AI generated

EDUCATION

Maastricht University | Data Science & Artificial Intelligence | GPA: 7.16/10

Graduated

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) & More

Anatolia College High School

Sep 2019 – July 2022

- IB Diploma Program (2020–2022) and Lyceum/MYP Program prior

OTHER

Programming: Python, TypeScript, JavaScript, Java, SQL, MATLAB

Frontend: React, Next.js 15, Angular, Tailwind CSS, Responsive Design

Backend: Node.js, Express.js, FastAPI, REST APIs, GraphQL, WebSockets

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

LLM tooling: OpenAI/ChatGPT, Claude, Gemini; CLI & API, function calling, RAG, agents

Databases: PostgreSQL, MongoDB, Supabase, Prisma ORM

Authentication: JWT, OAuth, NextAuth, Supabase Auth

Cloud/DevOps: Vercel, AWS, Docker, CI/CD, GitHub Actions, Azure ML, Docker, Model Deployment