Ilias Ouzounis

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Education

University of Patras — Patras, Greece
Electrical and Computer Engineering — *Sep. 2020 – July 2025*
- GPA: 8.75/10
- 5 year program with integrated Master's degree
- **Thesis:** *Acceleration of Diffusion Models for Image-Conditioned Point Cloud Generation*

Moraitis School — Athens, Greece
High School — *Sep. 2017 – Jun. 2020*
- GPA: 19.9/20
- Attended with full academic scholarship

Experience

Synopsys (Formerly Ansys) — Remote
Machine Learning R&D Intern in Optics — *Jun. 2025 – Nov. 2025*
- Researched and developed a neural network to accelerate Monte Carlo analysis for optical system tolerancing.
- Achieved a 250× speedup for complex optical systems with $< 2\%$ error on key tolerancing metrics.

Research Experience

Acceleration of Diffusion Models for Image-Conditioned Point Cloud Generation | Diploma Thesis
- Optimized diffusion models for generating 3D point clouds from 2D images.
- Implemented a distillation process to reduce the total number of iterations needed for the generation.
- Achieved a 32× speedup while mentaining high quality results.

Projects

AI Guess the Elo | *PyTorch* | *LSTM, CNN architectures* — *Github: Ai-Guess-the-elo*
- Trained an LSTM model to predict the Elo rating of chess players from a given game.
- Collected and processed data from lichess.org games.
- Awarded 2nd place in the Ai-Hub Patras Artificial Intelligence Competition 2023.

ASL Recognition | *Keras, Tensorflow* | *CNN architectures* — *Github: ASL_Recognition*
- Developed a CNN model to recognize American Sign Language gestures.
- Deployed the model to utilize the camera of the laptop to recognize the gestures in real time.

Art Gallery | *C++, GLSL* | *OpenGL* — *Github: Art-Gallery*
- Designed a complex 3D environment using OpenGL featuring dynamic lighting and real time shadow mapping.
- Programmed different GPU shaders across multiple rooms, with distinct visual themes.

Signed Distance Function Estimation | *Python* | *OpenGL, numpy* — *Github: Signed-Distance-Function*
- Created a framework to compute the Signed Distance Function (SDF) of any 3D object.
- Implemented a ray marching algorithm to efficiently detect ray-mesh collisions.

Technical Skills

Programming Languages: Python, C++, JavaScript, Rust, HTML/CSS

Machine Learning: PyTorch, Keras, Tensorflow

Computer Graphics: OpenGL, GLSL

Tools: Git, Linux, NodeJS, LaTeX

Languages

Greek: Native

English: Fluent, C2 Proficiency (2018), IELTS Band 8.5 (2024)

French: Lower Intermediate, DELF B2 (2019)

Awards and Honors

Ai-Hub Patras Artificial Intelligence Competition 2023: 2nd place

Greek National Math Olympiad "Archimedes": Silver Medal (2017), Bronze Medal (2020)

IEEE Xtreme Programming Competition 18.0: Team name 2mbps, 5th place in Greece, top 8% worldwide of 6500+ teams