

ATHANASIOS CHARISOUDIS

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Rotkreuz, Switzerland

EXPERIENCE

- Hochschule Luzern (HSLU)** Apr 2024 – Present
Research Engineer Rotkreuz, Switzerland
 - Advisor: Prof. Aljosa Smolic (Projects: TRANSMIXR, FaVoRe, HEAT).
 - Working on volumetric 3D human representations; accelerating training and realistic deformations for Gaussian Splatting.
 - Designed and operated a multiview RGB-D capture pipeline, including hardware rig configuration (synchronization, calibration) and software stack for acquisition, processing, and live previews.
- MLReproHub** Mar 2023 – Present
Researcher Stockholm, Sweden
 - Reproducing state-of-the-art Machine Learning papers with two fellow scholars from the KTH MSc in Machine Learning program.
- SCANIA Group** Jun 2022 – Sep 2022
Research Internship, Autonomous Systems R&D Södertälje, Sweden
 - Worked on Data-Driven Scenario-Based Validation of autonomous driving software stacks – from 3D deep-learning perception to traffic scenario identification and edge case analysis.
- Royal Institute of Technology (KTH)** Feb 2022 – Feb 2023
Research Engineer & Teaching Assistant Stockholm, Sweden
 - Advisor: Prof. Hedvig Kjellström (HiSS Project). Human-interaction modeling with 3D computer vision; explored directions toward 3D human avatars.
 - Teaching Assistant: (DD2380) Artificial Intelligence; (DD2434) Advanced Machine Learning; (DD1420) Foundations of Machine Learning.
- Eurotechnik Ltd** Mar 2015 – Nov 2020; Jul 2023 – Aug 2023
Full Stack Developer, IT Thessaloniki, Greece
 - Built a production CRM + ERP web app (eurotechnik.gr) and custom CMS in Laravel (LAMP).
 - Initiated “Eurotechnik Web Services” department (ews.eurotechnik.gr) hosting internal web apps, including CRM, ERP, and OMS.

EDUCATION

- École Polytechnique Fédérale de Lausanne (EPFL)** Sep 2024 – Oct 2025
External Ph.D. Student, Signal Processing Laboratory 4 (LTS4) Lausanne, Switzerland
 - Advisor: Prof. Pascal Frossard
- Royal Institute of Technology (KTH)** 2021 – 2024
M.Sc. in Machine Learning Stockholm, Sweden
 - Thesis: *Monocular Dynamic Motion Capture: A Regression-Optimization Hybrid Approach*
- Aristotle University of Thessaloniki** 2015 – 2021
Diploma in Electrical and Computer Engineering Thessaloniki, Greece
 - Diploma Thesis: *Generative Adversarial Networks for pose and style selection in fashion design applications*
 - Final (C)GPA: 8.88/10.00

PUBLICATIONS

- [C.1] Athanasios Charisoudis, Simone Croci, Lam Kit Yung, Pascal Frossard, Aljosa Smolic (2025). **A Fast Volumetric Capture and Reconstruction Pipeline for Dynamic Point Clouds and Gaussian Splats**. In *Proceedings of the ACM International Conference on Visual Media Production (CVMP '25)*, London, United Kingdom. ACM ISBN: 979-8-4007-2117-5/2025/12. DOI: 10.1145/3756863.3769713.
- [C.2] Athanasios Charisoudis, Simon Ekman von Huth, Emil Jansson (2022). **[Re] Masked Autoencoders Are Small Scale Vision Learners: A Reproduction Under Resource Constraints**. *ML Reproducibility Challenge 2022*, poster at NeurIPS 2023.

NOTABLE PROJECTS

- **Master's Thesis: Monocular Dynamic Motion Capture** 2024
Tools: Python, PyTorch, 3D Vision [Report]
 - **Royal Institute of Technology (KTH)** — Supervisor: Prof. Hedvig Kjellström.
 - Proposed a regression-optimization hybrid pipeline combining learned global motion regression with hand-crafted optimization for dynamic monocular setups; improved 3D motion recovery vs. baselines.
 - Publication of the thesis findings is ongoing.
- **GANs for Biological Image Synthesis** 2023
Tools: Python, PyTorch, Deep Learning (GANs) [Report]
 - Reproduced and extended Osokin et al.'s results on recreating cellular evolution images under fluorescence microscopy.
- **Diploma Thesis: Generative Adversarial Networks for Pose and Style Selection in Fashion** 2019 – 2021
Tools: Python, PyTorch, GANs (pix2pix, CycleGAN, StyleGAN, MUNIT) [Report in Greek]
 - **Aristotle University of Thessaloniki (AUTH)** — Supervisors: Prof. Pericles Mitkas, Dr. Antonios Chrysopoulos.
 - Developed GAN models for realistic clothing transformations; compared conditional and unpaired translation variants; conducted qualitative user study and ablations.
- **Full Stack Development (Eurotechnik Project)** 2015–2019, 2023
Tools: PHP (Laravel), MySQL, LAMP, Docker
 - CRM + ERP platform deployed on dedicated on-premise infrastructure with custom CMS.
 - Added an Order Management System in 2023 using Operational Research methods (stock cutting, integer programming).
- **Ad-hoc P2P Network with Raspberry Pi's** 2019 [Link]
Tools: C99, POSIX threads, client-server networking
 - Semester project for "Embedded Systems": threaded real-time client-server app to log and display events.

SKILLS

- **Very Strong:** Python (PyTorch, TDD, servers setup & management, ROS, systems programming); MATLAB (DL Toolbox R2020, Robotics & Peter Corke Toolbox, Fuzzy Systems, Audio Coding, Adaptive Signal Processing, Control); MySQL (prod-grade schemas for eurotechnik.gr, intra.eurotechnik.gr, ECESCON 11, Labyrinth); PHP (Laravel on LAMP); Git (600+ contributions/year, last 4 years); Docker (containers & inter-networks for dev/deploy, 3+ yrs)
- **Strong:** C (Pthreads, OpenMP, MPI; UNIX systems programming); Java (UDP/TCP sockets, NIO; Algorithms & DS); C++ (Parallel algorithms, OOP, numerical methods)
- **Medium:** Assembly (MIPS32, ATMEL AVR, ARMv6)

CERTIFICATIONS

- **GANs Specialization (Coursera) – 3-course specialization** 2020
- **IELTS (University of Cambridge) – overall band 8.0/9.0** 2021
- **IEEE Xtreme 10.0 (IEEE) – Finished 429/2500** 2016
- **C2 Proficiency in English (University of Michigan) – grade B** 2009

COURSES & MOOCs

- Machine Learning for Inverse Graphics (2023) – Prof. Vincent Sitzmann (scenerepresentations.org)
- Deep Generative Models (2021) – Prof. Stefano Ermo (bilibili.com)
- GANs Specialization (2020) – Prof. Sharon Zhou (coursera.org)
- CS231n: CNNs for Visual Recognition (2019) – Fei-Fei Li, Justin Johnson (cs231n.stanford.edu)
- Non-Linear Systems (2018) – J. J. E. Slotine (mit.edu/nsf)

REFERENCES

1. **Prof. Erik Fransén**
Professor, Division of Computational Science and Technology, KTH
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(reference sent by email only)
2. **Prof. Hedvig Kjellström**
Professor, Division of Robotics, Perception and Learning, KTH (Thesis Supervisor)
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3. **Prof. Pericles Mitkas**
Professor, E.C.E. Dept., Aristotle University; ISSEL (*Thesis Supervisor*)
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