

Panagiotis Petropoulakis - Curriculum Vitae

GitHub: <https://github.com/PetropoulakisPanagiotis> | PWP: <https://petropoulakispanagiotis.github.io/>

I can discover patterns, combine methodologies together, and propose extensions



EDUCATION

M.Sc. in Computer Science

Department of Informatics, Technical University of Munich (TUM) | Germany

Oct. 2021 - Mar. 2025

Focus: Computer Vision, Machine Learning, and Robotics

Estimated G.P.A. 1.9 (German system)

Thesis: [Scale-Aware Monocular Depth Prediction for SLAM in Canonical Space](#) | Preparing a publication

Supervisors: Prof. Stefan Leutenegger | Advisors: S. B. Laina & S. Schaefer & J. Jung

B.Sc. in Computer Science

Department of Informatics, National and Kapodistrian University of Athens (NKUA) | Greece

Sep. 2015 - Sep. 2020

Specialization: Data, and Knowledge Management

G.P.A. 8.16/10 (11% of graduating class)

Thesis: [A Leader-Follower Mobile Robot Scheme using an RGB-D Camera and MobileNets](#)

Supervisors: Prof. Konstantinos J. Kyriakopoulos, National and Technical University of Athens (NTUA)

Prof. Ioannis Z. Emiris, National and Kapodistrian University of Athens (NKUA)

RESEARCH EXPERIENCE

Chair of Robotics, AI and Real-time Systems | TUM

Oct. 2022 - March. 2023

* State-representation research project | Accepted at IEEE International Conference SMC 2024

- Task-specific grasping Autoencoder | [IGAE](#)

- Vision-based grasping with DRL, Sim2Real, ROS, LBR iiwa manipulator, Robotiq gripper, KinectV2 camera

- I proposed a Reward function, which was also adopted by a colleague and his research models were trained 5X faster

Supervisor: Prof. Alois Knoll | Advisors: J. Josifovski, and M. Malmir

Control Systems Lab | NTUA

Feb. 2019 - Oct. 2020

* Carried out my Bachelor Thesis and acquired experience in the following areas:

- Mobile Robotics, ROS, Computer Vision, Visual Servoing, Object Detection/Segmentation/Tracking, TensorFlow

* Peer-Reviewer for the 28th Mediterranean Conference on Control and Automation (Aerial Robotics & Clustering related topic)

Supervisor: Prof. Kostas J. Kyriakopoulos

WORKING EXPERIENCE

Computer Vision Engineer | [DeepScenario](#)

Oct. 2023 - Oct. 2024

* 3D Meshes | Linear Optimization | 2D Object Tracking | Optical Flow

* Optimized road networks elevation profile to accurately fit (achieved 0.05 m error tolerance)
with natural ground elevation contours | ASAM OpenDRIVE & OpenSCENARIO

* Enhanced algorithm speed for 2D bbox collision checking, video rendering, and automated labeling

Supervisors: Dr. Holger Banzhaf, and Dr. Jacques Kaiser

ML and Robotics Engineer | Chair of Robotics, AI and Real-time Systems | TUM

Apr. 2023 - Sept. 2023

* Implemented a vision-based DL model to predict the joints of manipulator robot | PyTorch

* Operated frequently the LBR iiwa Manipulator and made software improvements and demos

* Migrated the whole robotic set-up (packages, dependencies of sensors) into a Docker container

* Contributed to the [Virtual Training Platform for Robot Learning](#) project

Supervisors: J. Josifovski, and M. Malmir

Robotics Engineer | Chair of Information-oriented Control | TUM

Jan. 2023 - March. 2023

* Implemented an MPC (ipopt & ForcesPro optimizers) designed by my supervisors | [SeaClear project](#)

* Contributed in real experiments | Franka Emika Panda manipulator

Supervisor: P. Bevanda

DevOps | Institute of Flight System Dynamics | TUM

May. 2022 - Nov. 2022

* Contributed in several projects and adapted fast to new technologies

* Reported fixes/bugs in [Netdata](#) & [MATLAB](#)

* Gained experience in:

- [GitLab CI](#) | registering runners, building jobs & metrics monitoring ([pandas](#) & [time series](#))

- VMs, Remote Servers, Docker

Supervisor: Yi Lai

ACADEMIC EXPERIENCE

* Practical Course Assistant, "Simulation-Based Machine Learning in Robotics" | TUM

Spring Sem. 2023

* Lab Assistant, "Data Structures and Programming Techniques in C" | NKUA

Spring Sem. 2018

* Forum Instructor, "Artificial Intelligence" | NKUA

Winter Sem. 2018/19

TECHNICAL SKILLS

* I routinely program in [Python](#). Strong experience also in [C/C++](#)

* Have written some lines of code in [SQL](#), [HTML](#), [CSS](#), [JavaScript](#), [PHP](#)

* Misc.: [Vim](#) (main coding editor), [LaTeX](#), [MPI](#), [OpenMP](#), Amazon S3, Apache Parquet

AWARDS

Top Bachelor Thesis Award '21 | NKUA | <https://www.di.uoa.gr/en/highlights/thesis> - volume 18, page 33

OTHER

Nationality: Greek

Foreign Languages: English (ECPE & IELTS Academic Certificates) | German (Goethe-Zertifikat A2)

Interests:

Sports: Basketball (Playmaker & Shooting Guard at "Mylonas" Basketball team for 7 years), Swimming,

Volunteering ([Women in CS@TUM](#) & [Save Your Hood GR](#)), Chess, Reading, BBQ Grilling