Panagiotis Paschalidis

Computer Engineer

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Education

■ Master in Information Processing Systems and Machine Intelligence
2020 - 2022

Department of Computer Engineering and Informatics
University of Patras

GPA: 8.97/10 (Excellent)

Diploma Thesis:

- <u>Title:</u> Reconstructing Surfaces with Appearance using Neural Implicit 3D Representations.
- <u>Supervisor:</u> Assoc. Prof. Emmanouil Psarakis
- <u>Description:</u> Proposed a novel neural framework that recovers surface and appearance of 3D objects given a collection of posed images. While operating on a non scene specific scenario, we compare our approach to PixelNeRF, on the basis of novel view synthesis and surface reconstruction. Our model performs on par with our baseline, while resulting in less artifacts around the surface boundary.

Relevant Coursework: Computer Vision, Machine Learning, Statistical Signal Processing and Learning, Algorithms, Digital Image Processing, Bayesian Statistics, Pattern Recognition, Theory of Detection and Estimation

Relevant Projects:

- **Digital Image Processing:** Developed an image retrieval method using convolutional autoencoders built in PyTorch.
- **Computer Vision:** Developed traditional computer vision algorithms in Matlab ie. local feature matching, image alignment and stitching etc.

■ Bachelor in Telecommunications and Electronics Engineering
2011 - 2015

Department of Aeronautical Science
Hellenic Air Force Academy

GPA: 9.32/10 (Excellent)

Diploma Thesis:

- <u>Title:</u> Nonsolvability and Oscillations of Hallen and Pocklington Equations Using the Extended Kernel
- <u>Supervisor:</u> Asst. Prof. Panagiotis Papakanellos & Prof. George Fikioris
- <u>Description:</u> Proposed an extended integration kernel that yields less rapid current oscillations resulting in an efficient approximation of the exact kernel behaviour. Our work led to a journal publication.

Relevant Coursework: Probability Theory, Linear Algebra, Calculus, Differential Equations, Applied Mathematics, Operating Systems, Programming & Programming Languages, Digital Telecommuncations, Microcontrollers

Publications

1. Panagiotis J. Papakanellos, **Panagiotis Paschalidis**, and George Fikioris. *On the extended thin-wire kernel.* IEEE Transactions on Antennas and Propagation, 2016.

Working Experience

■ Visiting Researcher
2023 - 2024

VisLab, University of Amsterdam

Research Area:

- Monocular dynamic scenes modelling through gradient boosting techniques.

■ Junior Researcher
2021 - 2023

Signal Processing and Communications Lab, University of Patras

Responsibilities:

- Developing a transformer based variant of our novel neural framework "ImageSURF", able to capture accurate shape variations across objects of the same semantic class.

■ **Teaching Assistant**   2020 - 2022

Dept. of Computer Engineering and Informatics, University of Patras

Responsibilities:

- **Digital Image Processing and Image Analysis:** Tutoring students and reviewing assignments on various topics including digital compression, image reconstruction and restoration, image representation through segmentation and description.
- **Digital Communications:** Tutoring students and reviewing assignments on digital communication systems and information theory and the design and implementation of digital modulation methods.

■ **Lead Quality Assurance and Maintenance Control Engineer for F-16 aircraft**   2018-2021

Araxos Air Base, Hellenic Air Force

Responsibilities:

- General administrator of the aircraft inspection policy.
- Management of all technical teams in 336 Squadron (approximately 90 people).
- Suggest procedure modifications to the aircraft manufacturer to optimize the inspection protocol.

■ **Aircraft Maintenance Manager**   2016-2018

Araxos Air Base, Hellenic Air Force

Responsibilities:

- Inspection of the aircraft's communication and navigation systems.
- Give lectures on Aviation Electronics Theory of Operations (Avionics ToO).
- Management of aircraft maintenance officers and technicians belonging to avionics workshops of 336 Squadron/116CW (including 15 F-16 aircraft).

■ **Internship at Department of Telecommunication and Electronic Media**   Sep - Dec 2015

Electronics System Center, Hellenic Air Force

Responsibilities:

- Collaboration with Research and Development Groups.

Distinctions and Awards

- **Chief Engineer in charge of the 3rd F-16 VIPER upgrade**   2021
  Hellenic Air Force
- **Chief Engineer in charge of 8 F-16 aircraft and 25 people**   2016, 2017, 2018
  Air Tactics Center, Hellenic Air Force
- **Award for Academic Excellence during my studies at the Department of Aeronautical Science**   September 2015
  Hellenic Ministry of Defense
- **Graduated with the 2nd highest score from the Department of Aeronautical Science among 120 students**   2015
  Hellenic Air Force Academy
- **Awarded an educational trip to US Air Force Academy as the top ranked student at the Department of Aeronautical Science**   October 2014
  Hellenic Ministry of Defense
- **Top ranked Student in the Department of Aeronautical Science among 120 students**   2012, 2013, 2014
  Hellenic Air Force Academy
- **Admitted 1st to the Hellenic Air Force Academy with the highest score**   October 2011
- **Top Ranked Student in Northern Greece, €1,000**   August 2011
  Municipality of Thermi, Greece
- **Top Ranked Student in Northern Greece, €1,000**   August 2011
  Eurobank Scholarship Greece
- **Achieved the 6th highest score in Greek National High School Exams**   August 2011
  Scored 19,776/20,000 points in exams taken by ~100,000 students

Technical Skills

- **Programming Languages:** Python, Matlab, C, C++, Java, PHP
- **Parallel and Distributed Computing:** MPI, OpenMP, CUDA
- **Graphics:** ModernGl, OpenGL
- **Deep Learning Frameworks:** PyTorch
- **RDBMSs:** MySQL
- **Other:** HTML, CSS, 8085 Assembly, Linux, Git, LaTeX

Extracurricular Activities

- Freestyle windsurfing, snowboarding, running
- Playing "bouzouki" a traditional Greek string instrument
- Cooking and experimenting with new recipes

References

- Assistant Prof. Panagiotis Papakanellos, panagiotis.papakanellos@hafa.haf.gr
  Dept. of Aeronautical Science, Hellenic Air Force Academy
- Associate Prof. Emmanouil Psarakis, psarakis@ceid.upatras.gr
  Dept. of Computer Engineering and Informatics, University of Patras
- Associate Prof. Efstratios Gavves, egavves@uva.nl
  Informatics Institute, University of Amsterdam