Nikolaos Gkanatsios

1 Imvrou
Metamorfosi, Attika 14451
Greece
✆ +30 697 997 7085
✉ nikos.gkanatsios93@gmail.com
🖱 nickgkan.github.io

Education

2011 – 2017 **National Technical University of Athens (NTUA)**, *ECE*, B.Sc. & M.Sc. (5-year diploma), GPA 9.22/10, 9th among 328 in class, 1st in Systems and Electronics major.

2008 – 2011 **3rd Lyceum of New Heraklion, Attika**, *General Lyceum Graduation*, General Graduation Grade 19.9/20, General Panhellenic Examinations Grade 19.28/20, top 2% nationwide.

Master thesis

title *Fine-Grained Action Recognition and Segmentation in Videos Combining Visual and Linguistic Features*

supervisor Petros Maragos, Professor ECE, NTUA

description Experimentation with different visual and linguistic features and various fusion and classification methods to improve action recognition and segmentation on the challenging MPII Cooking Activities Dataset.

Industrial Research Experience

Aug 2018 – Present **Deeplab**, *Machine Learning Engineer*, Athens.
- Working on high-level semantic image representation, with application to scene graph generation, in collaboration with Prof. Maragos' lab at NTUA.
- Built an interactive demo of scene graph generation on videos.
- Built a webpage for real-time inference of visual relationships on wild images.

Mar 2017 – Jul 2018 **METIS Cybertechnology S.A.**, *Artificial Intelligence Engineer*, Athens.
- Designed and developed the whole natural language processing pipeline behind METIS's innovative maritime text chatbot.
- Developed several applications and APIs for METIS's products.

Research Collaborations with Academic Institutions

Nov 2019 – Present **Stanford University, Leonidas Guibas Lab**, Stanford, CA, USA, (working remotely).
- Working with Panos Achlioptas on an extension of their prior work "ShapeGlot: Learning Language for Shape Differentiation" in order to improve the zero-shot transferability of a neural listener that is able to perform fine-grained language grounding. Recommendation can be provided by Panos.

Nov 2019 – Present **TU Darmstadt, Intelligent Autonomous Systems Group**, Germany, (working remotely).
- Working with Dr. Georgia Chalvatzaki and Prof. Jan Peters on a multi-task relational network to improve joint detection of grasping points, class label and shape. Recommendation can be provided by Georgia.

Aug 2018 – Present **Computer Vision and Signal Processing Lab, NTUA**, Athens, Greece.
- Research on high-level semantic image representation, with application to scene graph generation, in collaboration with Deeplab.

Publications

2019 **Attention-Translation-Relation Network for Scalable Scene Graph Generation**. Gkanatsios et al., *Scene Graph Representation and Learning, ICCVW 2019.* PDF Code

2019 **Showcasing Deeply Supervised Multimodal Attentional Translation Embeddings: A Demo for Visual Relationship Detection**. Gkanatsios et al., *IEEE International Conference of Image Processing, ICIP 2019.* IEEExplore

2019 **Deeply Supervised Multimodal Attentional Translation Embeddings for Visual Relationship Detection**. Gkanatsios et al., *IEEE International Conference of Image Processing, ICIP 2019.* PDF Code

2018 **Metis: A Scalable Natural-Language-Based Intelligent Personal Assistant for Maritime Services**. Gkanatsios et al., *24th International Conference on Information and Software Technologies (ICIST 2018).* Springer

Talks / Oral Presentations

Sep 2019 **ICIP 2019**, Taipei, Taiwan: oral presentation of the paper "Deeply Supervised Multimodal Attentional Translation Embeddings for Visual Relationship Detection".

Oct 2018 **ICIST 2018**, Vilnius, Lithuania: oral presentation of the paper "Metis: A Scalable Natural-Language-Based Intelligent Personal Assistant for Maritime Services".

Jun 2018 **VOXXEDDAYS Athens**: A Scalable Maritime Platform Providing Services Through an NLP-Based Intelligent Personal Assistant

Teaching Experience

Sep 2019 – Present **CVSP Teaching Assistant**, Athens.
- I co-supervise an undergraduate student's diploma thesis on Visual Relationship Detection, together with Prof. Petros Maragos.

2013 – 2018 **Private Tutor**, Athens.
Courses I have taught include:
- Maths (to high-school students)
- Physics (to high-school students)
- Programming (to undergraduate students of ECE)
- Artificial Intelligence and Natural Language Processing (to postgraduate students of Data Science and Computer Science Schools)

Honors and Awards

2018 **Georgios Kontaxis Award** for being the 1st in 2017 class in Electronics and Systems major, ECE NTUA.

2018 **Christos Chalkias Award** for being the 1st in 2017 class in Electronics and Systems major, ECE NTUA.

2017 **EESTECH Challenge Athens 1st Prize** for winning the Machine Learning Hackathon, hold by EESTEC Athens and ECE NTUA.

2012 **Hellenic Physical Society** Award for making the top 10 in the final round of the Panhellenic Physics Competition for high-school students on a nationwide level.

2010 – 2011 **Awards from Hellenic Police** for excellence in high-school classes.

2006 – 2011 **High-school awards** for excellence in high-school and pre-high-school classes.

2006 – 2011 **High-school awards** for being the 1st in class.

Other Projects

I have run multiple projects on Intelligent Systems, Robotics and Electronics. Some of them can be viewed in my personal webpage https://nickgkan.github.io.

Research Interests

Computer Vision, Machine Learning, Interpretable AI
Visual Commonsense, Scene Graph Parsing, Vision-Language Inference, Low-Shot Learning, Cross-Modal Embeddings

Programming

(Experienced) Python, Matlab / (Basic) C, Javascript (NodeJS), SQL / PyTorch, Keras

Languages

Greek (Native)
English (Michigan Certificate of Proficiency in English)
French (Delf B1)

Personal

Basketball, drumming (self-taught), bass guitar (self-taught), ancient Greek literature, music transcription, Greek traditional dancing.