Nikolaos Karianakis

Contact Information

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Date of Birth July 15^{th}, 1986

Nationality & Citizenship Greek

US Visa: F1 (until Dec 2021)

Education

University of California, Los Angeles, USA

Master's [2011-2014] **& Ph.D.** [2011-2017] **in Computer Science**

- Area: Computer Vision & Machine Learning.
- Focus: Deep Learning. Advisor: Prof. Stefano Soatto.

National Technical University of Athens, Greece

Diploma in Electrical & Computer Engineering [2004-2011]

- Major: Computer Science & Computer Engineering.
- Minors: Electronics, Systems (Signals / Control / Robotics).
- Thesis: Digital Restoration of Prehistoric Theran Wall-paintings. Area: Computer Vision. Advisor: Prof. Petros Maragos.

Experience

Senior Researcher — **Microsoft, Redmond**
July 2017 - today — *Cloud & AI, Vision Group*
- Deep Learning, Custom Vision, Domain Adaptation (current focus: synthetic to real data, high-altitude aerial images). Manager: Dimitrios Lymberopoulos.

Research Intern — **Microsoft Research, Redmond**
June - September 2016 — *Computer Vision & Machine Learning*
- Person re-identification. Reinforcement learning. Mentor: Zicheng Liu.

R & D Engineering Intern — **Sony, Tokyo**
June - September 2015 — *Intelligent System Technology Department*
- Algorithm development, framework implementation and simulation, plus real-environment testing with iCart mini. Q reinforcement learning and deep neural networks to learn autonomous navigation. Mentor: Yusuke Watanabe.

Research Intern — **NASA's Jet Propulsion Laboratory, Pasadena**
July - September 2014 — *Computer Vision & Machine Learning*
- I collaborated with Thomas Fuchs and invented an algorithm for generic object detection, which builds on boosting techniques and deep features.

Research Intern — **Peking University, Beijing**
July - September 2013 — *Institute of Digital Media, Computer Science*
- RBMs, occlusion detection, depth estimation. Advisor: Yizhou Wang.

Graduate Research Assistant — **University of California, Los Angeles**
September 2011 - June 2017 — *Computer Vision & Machine Learning*

- Learning and engineering representations and deep architectures to solve problems such as large-scale detection & classification, occlusion detection and wide-baseline correspondence. Advisor: Stefano Soatto.

Research Assistant **National Technical University of Athens**
November 2010 - September 2011 *Electrical & Computer Engineering*

- Digital restoration of prehistoric Theran wall paintings. Image segmentation, total variation inpainting, seamless image stitching. Advisor: Petros Maragos

Publications

Reinforced Temporal Attention and Split-Rate Transfer for Depth-Based Person Re-Identification. N. Karianakis, Z. Liu, Y. Chen and S. Soatto.
In European Conference on Computer Vision, September 2018.

An Empirical Evaluation of Current Convolutional Architectures' Ability to Manage Nuisance Location and Scale Variability. N. Karianakis, J. Dong and S. Soatto.
In IEEE Conference on Computer Vision and Pattern Recognition, June 2016.

Multiview Feature Engineering and Learning.
J. Dong, N. Karianakis, D. Davis, J. Hernandez, J. Balzer and S. Soatto.
In IEEE Conference on Computer Vision and Pattern Recognition, June 2015.

Visual Scene Representations: Scaling & Occlusion in Convolutional Architectures.
S. Soatto, J. Dong and N. Karianakis.
In International Conference on Learning Representations workshop, May 2015.

Boosting Convolutional Features for Robust Object Proposals.
N. Karianakis, T. J. Fuchs and S. Soatto. *ArXiv*, March 2015.

Learning to Discriminate in the Wild:
Representation-Learning Network for Nuisance-Invariant Image Comparison.
N. Karianakis, Y. Wang and S. Soatto. *Technical Report*, December 2013.

An integrated System for Digital Restoration of Prehistoric Theran Wall Paintings.
N. Karianakis and P. Maragos.
In IEEE International Conference on Digital Signal Processing, July 2013.

Research Interests

Deep Learning, Computer Vision, Machine Learning, Robotics, Algorithms.

Technical Skills

C/C++, Python, Lua, Matlab, ROS, Haskell, ML, Prolog, Assembly x86/AVR, CUDA, LaTeX, Caffe, Torch, MatConvNet, PyTorch, TensorFlow, Theano.

Teaching Experience

Graduate Teaching Fellow University of California, Los Angeles

Computer Science I (CS31; Fall 2012, Fall 2013, Winter 2014, Fall 2014).
Instructors: David Smallberg, Michael Shindler.

Computer Science II (CS32; Winter 2013, Spring 2013, Winter 2015).
Instructors: David Smallberg, Carey Nachenberg.

Computer Organization (CS33; Spring 2014). Instructor: Glenn Reinman.

Machine Learning Algorithms (CS260; Fall 2015). Instructor: Ameet Talwalkar.
Nominated by the CS department for the Distinguished Teaching award.