Michael Iliadis

Contact Information

Michael Iliadis
Sr. Machine Learning Engineer
U.S. Permanent Resident

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Research Interests

My current focus is in document image analysis (scanned form recognition and key-value object detection). My broader research interests include deep learning and sparse modeling for image processing and computer vision applications (video compressive sensing, face recognition, object detection, semantic segmentation and image retrieval).

Education

Northwestern University, Evanston, IL USA 09/2011 - 06/2016

Ph.D., Department of Electrical Engineering & Computer Science

- *Thesis*: Sparse Representation and Deep Learning for Image and Video Reconstruction
- *Advisor*: Aggelos K. Katsaggelos
- *Committee*: Aggelos K. Katsaggelos, Oliver Cossairt and Goce Trajcevski

University of Bath, Bath, UK 09/2008 - 09/2009

MSc, Department of Computer Science

- *Thesis*: Automatic Optimisation of Data Structures for Client-Server Computing
- *Advisor*: John Fitch

University of Piraeus, Piraeus, Greece 09/2003 - 06/2008

BSc, Department of Digital Systems

- *Thesis*: Discrete Event Modeling and Simulation of a Call Center
- *Advisor*: John Paravantis

Employment

Vidado.ai, Oakland, CA USA 08/2017 - Present

Sr. Research Engineer, Machine Learning Team
- Researching a deep learning system for key-value detection in scanned forms (filed a patent)
- Researched a large-scale image classification system for noisy scanned form documents using one-shot learning
- Researched a large-scale image classification system for noisy scanned form documents using one-shot learning
- Researched a robust near-duplicate document retrieval system (filed a patent)
- Development of a system to detect tables in scanned documents using an one-stage object detector

SONY US Research Center, San Jose, CA USA 08/2016 - 08/2017

Research Scientist, Visual Sensing Technology
- Researched the semantic segmentation problem for Sony mobility products
- Designed an end-to-end FCN-CRF network for boundary refinement
- Improved semantic segmentation run-time by applying knowledge distillation loss

TCL Research America, San Jose, CA USA 2013 - 2014

Research Intern, Multimedia Lab, Dr. Haohong Wang
- Researched and implemented a novel sparsity method for face recognition
- Designed compact features for a fast video retrieval system
- Published 2 conference papers and 4 patents

Teaching Experience

Northwestern University

TA of Ian D. Horswill, Data Structures and Data Management, Spring '15 and '16
TA of Michael Honig, Engineering Analysis I, Fall '15

Selected Publications

Google scholar: scholar.google.com/citations?user=eitRqV0AAAAJ&hl=en

Michael Iliadis, Leonidas Spinoulas and Aggelos K. Katsaggelos. DeepBinaryMask: Learning a Binary Mask for Video Compressive Sensing. *Elsevier Digital Signal Processing, January 2020.*

Alice Lucas, **Michael Iliadis**, Rafael Molina and Aggelos K. Katsaggelos. Using Deep Neural Networks for Inverse Problems in Imaging. *IEEE Signal Processing Magazine (SPM), January 2018.*

Michael Iliadis, Leonidas Spinoulas and Aggelos K. Katsaggelos. Deep Fully-Connected Networks for Video Compressive Sensing. *Elsevier Digital Signal Processing, January 2018.*

Michael Iliadis, Haohong Wang, Rafael Molina and Aggelos K. Katsaggelos. Robust and Low-Rank Representation for Fast Face Identification with Occlusions. *IEEE Transactions on Image Processing (TIP), May 2017.*

Michael Iliadis, Leonidas Spinoulas, Albert S. Berahas, Haohong Wang and Aggelos K. Katsaggelos. Multi-Model Robust Error Correction for Face Recognition. *IEEE International Conference on Image Processing (ICIP)*, Phoenix, USA, September 2016.

Michael Iliadis, Jeremy Watt, Leonidas Spinoulas and Aggelos K. Katsaggelos. Video Compressive Sensing using Multiple Measurement Vectors. *IEEE International Conference on Image Processing (ICIP)*, Melbourne, Australia, September 2013. **Top 10% Paper Recognition**

Selected Patents

Michael Iliadis, Haohong Wang. Face Recognition System and Method. *TCL Research America*, US Patent 9430694. August 2016.

Michael Iliadis, Armin Kappeler, Haohong Wang. Method and System for Face Recognition using Deep Collaborative Representation-Based Classification. *TCL Research America*, US Patent 9430697. August 2016.

Michael Iliadis, Haohong Wang. System and Method for Rapid Face Recognition. *TCL Research America*, US Patent 9275309. March 2016.

Computer Skills

– Programming Languages: Python, C++
– Machine Learning/Computer Vision: PyTorch, OpenCV

Professional Service

Reviewer: IEEE Transactions on Multimedia, IEEE Transactions on Image Processing, IEEE Access, Elsevier Digital Signal Processing, EURASIP Journal on Advances in Signal Processing