Michael Iliadis

Senior Research Scientist, Clarifai
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Research Expertise

Computer Vision, Machine Learning, Image Processing, Video Reconstruction, Face Recognition, Sparse Coding

Education

Northwestern University, Evanston, IL USA 09/2011 - 06/2016
Ph.D., Electrical Engineering & Computer Science

- Thesis: Sparse Representation and Deep Learning for Image and Video Reconstruction
- Advisor: Aggelos K. Katsaggelos

University of Bath, Bath, UK 09/2008 - 09/2009
M.S., Computer Science

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

University of Piraeus, Piraeus, Greece 09/2003 - 06/2008
B.S., Digital Systems

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

Employment

Clarifai, San Francisco, CA USA 01/2020 - Present
Senior Research Scientist

- Currently focusing on learning embeddings for face search
- Designed a new face demographics predictor with a focus to reduce bias across classes
- Implemented and evaluated several multiple object tracking algorithms

Vidado.ai, Oakland, CA USA 08/2017 - 01/2020
Senior Research Engineer

- Developed a deep learning system for table and key-value detection in scanned documents
- Developed a large-scale image classification system for noisy scanned form documents using one-shot learning (filed a patent)
- Implemented a robust near-duplicate document retrieval system (filed a patent)

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

- 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

- Researched and implemented a novel sparsity method for face recognition
- Designed compact features for a fast video retrieval system
- Manager: Haohong Wang, published 2 conference papers and 4 patents

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.

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

Computer Skills

- Programming Languages: Python, C++
- Machine Learning / Computer Vision: Tensorflow, PyTorch, OpenCV, AWS, Kubernetes

Mentorship

- Insight Fellows Program: Mentored a fellow for data scientists for the fall of 2020 with project title, *transfer learning with visual and text signals with an application on predicting hate speech in internet memes.*

Professional Service

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