Georgios Georgiadis

Phone number: +1-650-799-3614, E-mail: georgios.georgiadis0@gmail.com, Website: https://georgios0.github.io/

Research Interests

I have extensive experience in Computer Vision, Machine Learning and Deep Learning research. I am currently leading the Neural Network hardware accelerator software team at Samsung. I am actively working on algorithms that accelerate and compress Neural Networks. During my PhD thesis, I dealt with video understanding, texture/structure partition, texture compression, synthesis and video compression. I have also worked on problems related to video segmentation, scene flow and texture segmentation. I have been exposed through research or courses to Machine Learning, Video and Image Processing and Convex Optimization.

Education

UCLA	**PhD in Computer Science** (Advisor: Prof. Stefano Soatto) Major field: Computer Vision. Minor fields: Artificial Intelligence, Systems and Signals.	9/2010 – 9/2015
	M.Sc. in Computer Science Focus on Computer Vision, Machine Learning and Statistics.	9/2010 – 3/2013
Stanford University	**M.S. in Electrical Engineering** Focus on Computer Vision, Signal and Image Processing. **Projects:** Image understanding, independent study work with Prof. Fei-Fei Li.	9/2008 – 3/2010
Imperial College	**MEng. in Electrical and Electronic Engineering with First Class Honors** Focus on Digital Signal Processing.	9/2004 – 6/2008

Employment History

Samsung	**Senior Deep Learning Research Team Lead** Leading S/W team in deep learning research.	11/2018 – Pres.
	Senior Computer Vision Scientist Accelerating Neural Networks via algorithmic designs. Main topics of research: Pruning, Quantization, Compression.	1/2017 – 11/2018
Dolby Laboratories	**Research Engineer, Image Technology** Applied Machine Learning techniques in video shot detection to achieve state-of-the-art performance, developed an image QA system to automate the encoding process of video and developed an image denoising algorithm that was incorporated in the encoding process under the Dolby Vision framework.	12/2015 – 1/2017
	Research Intern Designed a video segmentation system that is competitive with state-of-the-art.	5/2015 – 7/2015
	Research Intern Designed a scene flow algorithm that achieves state-of-the-art performance.	6/2014 – 9/2014
HBO Inc.	**Technical Consultant** Technical analysis on topics for the T.V. show “Silicon Valley”.	5/2014 – 5/2014
Adobe Systems Inc.	**Emerging Graphics Group Intern** Designed a new texture segmentation algorithm that achieves comparable results with recent approaches.	6/2013 – 9/2013
UCLA	**Teaching Assistant** (Introduction to Computer Graphics)	3/2012 – 6/2012
	Graduate Student Researcher (Research in Computer Vision)	9/2010 – 9/2015
Princeton University	**Visiting Student Research Collaborator** Worked on quickest detection theory in cognitive radio networks that lead to a journal publication.	7/2009 – 9/2009
Cyprus National Guard		7/2002 – 8/2004

Awards and Achievements

Reviewer for ICCV 2013, 2017 and CVIU. University fellowship at UCLA for the academic years 2010-11 and 2011-12. Won the Ideas Entrepreneurship Challenge of Imperial College (Winning prize was a £1,000 GBP, submitted a business idea called “LOWN” -Lights On When Needed). Associateship of the City and Guilds of London Institute (ACGI) with First Class Honors. Ranked top 4 out of 150 for overall performance at Imperial College. Commendation by the head of the EE department for ranking within the top 10 students in year 3 and top 12 in year 2.

Skills

Programming: C++, C, Python, Matlab.
Languages: Greek (Native language), English (Fluent), Polish (Advanced).

Patents

E. Sakhaee, Liu Liu, **G.G.**, "Near-Infrared Spectroscopy (NIR) based Glucose Prediction Using Deep Learning", Patent Pending, 2019
G.G., W. Deng, "Jointly Pruning and Quantizing Neural Networks", Patent Pending, 2019
G.G., "Lossy Compression of Neural Network Activation Maps", Patent Pending, 2018
G.G., "Lossless Compression of Neural Network Weights", Patent Pending, 2018
G.G., "Lossless Compression of Sparse Activation Maps of Neural Networks", Patent Pending, 2018
G.G., W. Deng, "Accelerating Long Short-Term Memory Networks via Selective Pruning", Patent Pending, 2018
W. Deng, **G.G.**, "A self-pruned neural network design for weight parameter reduction", Patent Pending, 2017
Z. Ji, J.W. Brothers, W. Deng, **G.G.**, "Methods and Algorithms for Reducing Computation for Deep Neural Networks via Pruning", Patent Pending 2017
A. Partin, K. Thurston, **G. G.**, "Color Image Modification with Approximation Function", Patent Pending, 2017
N. Xu, **G.G.**, J. Crenshaw, "Coherent Motion Estimation for Stereoscopic Video", U.S. Provisional Patent Appl. 62/128,399, March 4, 2015.

Publications

G. G., "Accelerating Convolutional Neural Networks via Activation Map Compression", IEEE CVPR, 2019
G. G., S. Soatto, "A Mid-Level Representation of Visual Structures for Video Compression", IEEE WACV, 2016
G. G., "Scene Representations for Video Compression", PhD Thesis at University of California, Los Angeles, 2015
G. G., A. Chiuso, S. Soatto, "Texture Representations for Image and Video Synthesis", IEEE CVPR, 2015
G. G., S. Soatto, "Exploiting Temporal Redundancy of Visual Structures for Video Compression", DCC, 2015
G. G., A. Chiuso, S. Soatto, "Texture Compression", DCC, 2013
G. G., A. Ravichandran, S. Soatto and A. Chiuso, "Encoding Scene Structures for Video Compression", SPIE, 2012
G. G., A. Ayvaci and S. Soatto, "Actionable Saliency Detection: Independent Motion Detection Without Independent Motion Estimation", IEEE CVPR, 2012
G. G., S. Soatto, "Scene-Aware Video Modeling and Compression", DCC, 2012
L. Lai, H. V. Poor, Y. Xin and **G. G.**, "Quickest search over multiple sequences", IEEE TIT, 2011
L. Lai, H. V. Poor, Y. Xin and **G. G.**, "Quickest Sequential Opportunity Search in Multichannel Systems", IWAP, 2010
G. Leseur, N. Meunier, **G. G.**, L. Huang, J. DiCarlo, B. Wandell and P. B. Catrysse, "High-speed document sensing and misprint detection in digital presses", SPIE, 2010
G.G., "Parametric modelling and control of hybrid vehicles", Final year dissertation at Imperial College, 2008