

Yani Ioannou

CONTACT INFORMATION Jesus College
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SKILLS SUMMARY

- Microsoft Research Ph.D. Scholar, studying at the University of Cambridge under the direction of Prof. Roberto Cipolla and Dr. Antonio Criminisi (Microsoft Research)
- Significant research experience in the fields of deep learning and computer vision, with an education at top research universities (Toronto, Cambridge), experience in one of the top industrial research labs in the field (Microsoft Research Cambridge), and software development experience at the largest software lab in Canada (IBM's Toronto Lab)
- Open-source development, notably in the Linux kernel and Point Cloud Library (PCL)

EDUCATION **University of Cambridge**, Cambridge, United Kingdom *Nov. 2013 – Present*
Ph.D. Student, Machine Intelligence Lab, Department of Engineering

- Microsoft Research Ph.D. Scholar, visiting student at MSR Cambridge
- Supervisors: Prof. Roberto Cipolla, Dr. Antonio Criminisi (Microsoft Research), Dr. Matthew Brown (University of Bath)
- Research Topic: Structural Priors in Deep Neural Networks
- Transferred in Oct. 2015 from U. Bath after Dr. Brown moved to Google

Queen's University, Kingston, Ontario, Canada *Sep. 2006 – Mar. 2010*
M.Sc., School of Computing

- Supervisors: Dr. Michael A. Greenspan, Robin Harrap
- Research Interests: 3D Computer Vision, Surface Processing, Object Recognition
- Thesis Topic: Segmentation and Object Recognition in Mobile Urban LIDAR Data

University of Toronto, Toronto, Ontario, Canada *Sep. 2000 – May. 2006*
B.Sc. Honours, Computer Science Co-op: Software Engineering

- Specialist : Computer Science: Software Engineering
- Co-op: 1 year of industry experience (see Professional Experience)

SELECTED PUBLICATIONS & PATENTS¹

Deep Roots: Improving CNN Efficiency with Hierarchical Filter Groups
Yani Ioannou, Duncan Robertson, Roberto Cipolla, Antonio Criminisi
30th IEEE Conference on Computer Vision and Pattern Recognition (CVPR)
Honolulu, Hawaii, USA *Jul. 21 – 26, 2017*

Measuring Neural Net Robustness with Constraints
Osbert Bastani, Yani Ioannou, Leonidas Lampropoulos, Dimitrios Vytiniotis, Aditya Nori, Antonio Criminisi
13th Annual Conference on Neural Information Processing Systems (NIPS)
Barcelona, Spain *Dec. 5 – 10, 2016*

Refining Architectures of Deep Convolutional Neural Networks
Sukrit Shankar, Duncan Robertson, Yani Ioannou, Antonio Criminisi, Roberto Cipolla
29th IEEE Conference on Computer Vision and Pattern Recognition (CVPR)
Las Vegas, Nevada, USA *Jun. 27 – 30, 2016*

Training CNNs with Low-Rank Filters for Efficient Image Classification
Yani Ioannou, Duncan Robertson, Jamie Shotton, Roberto Cipolla, Antonio Criminisi
International Conference on Learning Representations (ICLR) 2016
San Juan, Puerto Rico *May 2 – 4, 2016*

¹Please see my Google Scholar profile for a full list of publications and patents

Decision Forests, Convolutional Networks and the Models in-Between
Yani Ioannou, Duncan Robertson, Darko Zikic, Peter Kontschieder, Jamie Shotton,
Matthew Brown, Antonio Criminisi
Microsoft Research Technical Report #2015-58 *Apr. 1, 2015*

Segmentation of Brain Tumor Tissues with Convolutional Neural Networks
Darko Zikic, **Yani Ioannou**, Antonio Criminisi, Matthew Brown
MICCAI workshop on Multimodal Brain Tumor Segmentation Challenge (BRATS)
Boston, Massachusetts, USA *Sep. 14, 2014*

Emergency Detection and Response System and Method
Alex Mihailidis, Babak Tatti, **Yani Ioannou**, Jennifer Boger, James E. Gastle
United States Patent Application #13/655,920 *April 25, 2013*

Difference of Normals as a Multi-Scale Operator in Unorganized Point Clouds
Yani Ioannou, Babak Taati, Robin Harrap, Michael Greenspan
IEEE International Conference on 3D Imaging, Modelling, Processing, Visualization and Transmission (3DIMPVT)
Zurich, Switzerland *Oct. 13 – 15, 2012*

PROFESSIONAL EXPERIENCE **Microsoft Research**, Cambridge, United Kingdom
Research Intern *Mar. 2014 – Dec. 2014*

- Supervisor: Dr. Antonio Criminisi
- Worked with a team of researchers on a 9-month special research project exploring deep learning methods for supervised large scale visual recognition

University of Toronto/University Health Network, Toronto, Ontario Canada
Research Associate *Mar. 2011 – Nov. 2013*

- Led research/devel. of the Personal Emergency Response System (PERS), a computer vision based fall detection system, hardware/software implementation of prototypes

IBM Canada Limited, Markham, Ontario Canada
DB2 Linux Tester/Developer, DB2 Linux Validation (Co-op) *Sept. 2004 – May 2005*

- Validated DB2 for beta and release candidate Linux distributions on 4 different computer architectures, and numerous pre-release hardware platforms

VOLUNTEER EXPERIENCE **Linux Kernel - Open Source Software Development**

- Linux is the operating system used by 19 Million PCs, the 79% of smartphones running Android, and 97% of web servers, including those of Google, Facebook and Amazon
- Linux 2.6.13, “dynamic sysfs attribute” patch for driver core allowed significant clean-up of most kernel drivers, reducing some by up to 40% in binary module size. This significantly reduced the kernel’s binary size/compile time and allowed drivers to create an unlimited number of sysfs device attributes
- Linux 2.6.17, “IPMI sysfs” patch ported IPMI subsystem to the 2.6 sysfs/driver model

Point Cloud Processing Library (PCL) - Open Source Software Development

- PCL is an open source library for 3D computer vision and processing of point clouds.

TEACHING EXPERIENCE I have over 200 hours of experience in front of a classroom, as both an undergraduate and graduate teaching assistant at four universities.