ANURAG RANJAN

PROFILE

PhD student of Computer Vision and Machine Learning at Max Planck Institute for Intelligent Systems, Tübingen Germany with Dr. Michael J. Black.

WHAT HAVE I DONE – A few of my recognised works include SpyNet for Optical Flow, Convolutional Mesh Autoencoders and Adversarial Collaboration.

CODE – I host and maintain several repositories on Github that are popular and are widely used among researchers and engineers alike. These repositories use deep learning frameworks like Torch, Pytorch and Tensorflow with Python, C, C++ and CUDA.

MORE CODE – I maintain the Max Planck's mesh library hosted publicly on Github that supports several projects involving 3D mesh processing in Python.

EVEN MORE CODE – My team was ranked 2nd in India during the IEEE Xtreme Programming Competition 2011.

EXPERIENCE

RESEARCH INTERN, NVIDIA RESEARCH, WESTFORD, MA – FALL 2018

DEEP LEARNING FOR OPTICAL FLOW – Answering two questions - Why are deep networks still not the best methods for optical flow estimation? How do we achieve ground breaking performance which can generalise on any scenario?

RESEARCH INTERN, FACEBOOK RESEARCH, MENLO PARK, CA – SUMMER 2017

UNSUPERVISED OBJECT SEGMENTATION – I developed a method which can learn to segment objects by using correspondences between video frames. We filed a US Patent on the concepts developed during the internship.

SOFTWARE DEVELOPER, MASHUP MACHINE, VANCOUVER – FALL 2015

I developed deep learning modules using Theano and Tensorflow that supported several systems at Mashup, including movie dialogue and story board prediction,

EDUCATION

MAX PLANCK INSTITUTE FOR INTELLIGENT SYSTEMS, GERMANY – PH.D, 2019

THESIS – Deep Geometric Learning, an exploration on how geometric constraints can lead to better learning in deep network, particularly in an unsupervised setting.

THE UNIVERSITY OF BRITISH COLUMBIA, VANCOUVER BC – M.SC, 2015

DISSERTATION – Learning Periorbital Soft Tissue Motion, a neural network approach to learning a model for the motion of the upper face which can be used for VFX.

NATIONAL INSTITUTE OF TECHNOLOGY, KARNATAKA INDIA – B.TECH, 2013

DISSERTATION – Compressive Sensing of Hyperspectral and MRI images.

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SELECTED WORKS AND PUBLICATIONS

A RANJAN, V Jampani, K Kim, D Sun, J Wulff, MJ Black
Adversarial Collaboration: Joint Unsupervised Learning of Depth, Camera Motion, Optical Flow and Motion Segmentation. arXiv preprint arXiv:1805.09806 2018

A RANJAN, MJ Black
Optical flow estimation using a spatial pyramid network. CVPR 2017

A RANJAN, T Bolkart, S Sanyal, MJ Black
Generating 3D faces using Convolutional Mesh Autoencoders. ECCV 2018

A RANJAN, J Romero, MJ Black
Learning Human Optical Flow. BMVC 2018

J Janai, F Güney, A RANJAN, MJ Black, A Geiger
Unsupervised Learning of Multi-Frame Optical Flow with Occlusions. ECCV 2018

P Bongale, A RANJAN, S Anand
Implementation of 3D object recognition and tracking. IEEE RACSS 2012

AWARDS

Mitacs Globalink Graduate Fellowship that supported my tuitions and living at The University of British Columbia, for Master of Science program.

I received an appreciation letter from the Canadian Prime Minister's office during my research exchange at Ecole Polytechnique de Montreal.

IBM Web Technical Contest Award for Interpretation of Behaviour of Autistic Individuals using Gesture Recognition and Tracking with Depth Sensor camera.

WHAT ELSE DO I DO

I write poetry since I was 15, some are here – http://little-dropsofwater.blogspot.com/
I write some tech, some history, some satire here – https://medium.com/@anuragranj
I recently got interested and started teaching myself guitar.
I like astronomy. I was the Tech Coordinator at Astronomy Club in my undergrad.
I play Football in Europe and Soccer in the US, won some internal leagues.
I like to cook, one of my recipes made it to a 2 star Michelin Chef.

LINKS

WEB – http://anuragranj.github.io/
GITHUB – https://github.com/anuragranj/
SCHOLAR – https://scholar.google.ca/citations?user=K-Xbnp8AAAAJ&hl=en