

GURKIRT SINGH

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EDUCATION & EXPERIENCE

ETH Zurich Postdoctoral Fellow; Supervised by Prof. Luc Van Gool	<i>Feb. 2020 - now</i>
Oxford Brookes University Ph.D. Student; Supervised by Prof. Fabio Cuzzolin	<i>Sept. 2015 - Nov 2019</i>
Borealis AI, Canada Research Intern; Supervised by Prof. Greg Mori & Prof. Leonid Sigal	<i>Feb. 2019 - May 2019</i>
Disney Research, USA R&D Lab Associate (Research Intern); Supervised by Prof. Leonid Sigal & Dr. Andreas Lehrmann	<i>Feb. 2017 - Jul. 2017</i>
Siemens Corporate Research, India Research Engineer	<i>Oct. 2013 - Aug. 2015</i>
INRIA, France Research Intern & Engineer; Supervised by Prof. Radu Horaud & Dr. Georgios Evangelidis	<i>Feb. 2013 - Sept. 2013</i>
Institut Polytechnique de Grenoble, France MSc in Informatics at ENSIMAG; Supervised by Prof. Radu Horaud & Dr. Georgios Evangelidis	<i>Sep. 2012 - Jun. 2013</i>
University of Edinburgh, UK Research Intern; Supervised by Prof. Bob Fisher	<i>Jan. 2010 - May 2010</i>
VIT University, Vellore, India B.Tech; Supervised by Prf. Bob Fisher & Prof. Arulmozhivarman Pachiyappan	<i>Aug. 2006 - May 2010</i>

RESEARCH INTERESTS

Spatiotemporal Action Detection	3D Human Pose-estimation
Monocular Depth Estimation	Detection and Tracking of Human

SELECTED PUBLICATIONS

Spatio-Temporal Action Detection Under Large Motion

Gurkirt Singh, Vasileios Choutas, Suman Saha, Fisher Yu, Luc Van Gool
IEEE/CVF Winter Conference on Applications of computer Vision (WACV), 2023

ROAD: The ROad Event Awareness Dataset for Autonomous Driving

Gurkirt Singh, Stephen Akrigg, Manuele Di Maio, others &, Fabio Cuzzolin
IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI), 2022

ESAD: Endoscopic Surgeon Action Detection Dataset

Vivek Singh Bawa, **Gurkirt Singh**, Francis KapingA, others &, Fabio Cuzzolin
Preprint arXiv: 2006.07164, 2021

Recurrent Convolutions for Causal 3D CNNs

Gurkirt Singh and Fabio Cuzzolin
Workshop on Large Scale Holistic Video Understanding, ICCV, 2019

An End-to-End Baseline for Video Captioning

Silvio Olivastri, **Gurkirt Singh** and Fabio Cuzzolin
Workshop on Large Scale Holistic Video Understanding, ICCV, 2019

TraMNet - Transition Matrix Network for Efficient Action Tube Proposals

Gurkirt Singh, Suman Saha and Fabio Cuzzolin
Asian Conference on Computer Vision (ACCV), 2018

Incremental Tube Construction for Human Action Detection

Harkirat Behl, Michael Sapienza **Gurkirt Singh**, Suman Saha, Fabio Cuzzolin and Philip Torr
British Machine Vision Conference (BMVC), 2018

Predicting Action Tubes

Gurkirt Singh, Suman Saha and Fabio Cuzzolin
Workshop on Anticipating Human Behavior, ECCV 2018

Online Real-time Multiple Spatiotemporal Action Localisation and Prediction

Gurkirt Singh, Suman Saha, Michael Sapienza, Philip Torr and Fabio Cuzzolin
International Conference on Computer Vision (ICCV), 2017

AMTnet: Action-Micro-Tube Regression by end-to-end Trainable Deep Architecture

Suman Saha, **Gurkirt Singh** and Fabio Cuzzolin
International Conference on Computer Vision (ICCV), 2017

Deep Learning for Detecting Multiple Space-Time Action Tubes in Videos

Suman Saha, **Gurkirt Singh**, Michael Sapienza, Philip Torr and Fabio Cuzzolin
British Machine Vision Conference (BMVC), 2016

Untrimmed Video Classification for Activity Detection: Submission to ActivityNet Challenge

Gurkirt Singh and Fabio Cuzzolin
ActivityNet Challenge Workshop, CVPR 2016

Skeletal Quads: Human action recognition using joint quadruples

Georgios Evangelidis, **Gurkirt Singh**, Radu Horaud
International Conference on Pattern Recognition Vision (ICPR), 2014

Continuous Gesture Recognition from Articulated Poses

Georgios Evangelidis, **Gurkirt Singh**, Radu Horaud
Workshop on Looking at People (Chalearn), ECCV 2014

AWARDS & CHALLENGES

Multisports-Challenge, DeeperAction ECCV'22: Winner of Action Detection Track	2022
Doctoral Consortium: Selected for Doctoral Consortium Award ICCV-2019	2019
Best Reviewer: Selected as the best reviewer for ICCV-2019	2019
PhD Scholarship: 150th Anniversary PhD Scholarship, Oxford Brookes University	2015
Charades-Challenge 2017: Acton Recognition and Segmentation tasks (Rank: 2/10 and 3/6)	2017
ActivityNet-Challenge 2017: Classification tasks (Rank 3/29)	2017
ActivityNet-Challenge 2016: Classification and Detection tasks (Rank 10/24 and 2/6)	2016
Chalearn-Challenge 2014: Looking at People Challenge (Gesture Detection Task Rank 7/17)	2014

SKILLS

Programming: Python, Matlab, C/C++, Lua

Deep Learning Platforms: PyTorch, Lightning, Torch, Caffe, TensorFlow

Libraries: Numpy, Scipy, Scikit-Learn, OpenCV, Eigen, Kinect SDK, Wandb

Operating Systems: Linux, macOS, Windows

TEACHING EXPERIENCE

Machine Learning: Teaching Assistant (Postgraduate)	2018
Computer Vision and Machine Learning: Guest lecturer (Postgraduate)	2016, 2017, 2018
Understanding Programming: Lab Assistant (Undergraduate)	2015, 2016, 2017

COMMUNITY CONTRIBUTIONS

Co-cognised workshop on The ROAD Challenge ICCV 2021.

Co-cognised workshop on ESAD challenge for surgeon action detection, MIDL 2020.

Best reviewer award ICCV 2019

Reviewer: TPAMI 2017, 2018, ICCV 2019, 2021, ECCV 2020, 2022 CVPR 2018,2019,2020,2021,2022
BMVC 2018,2019 and IJCIA 2017, 2018, 2019

LANGUAGES

Punjabi (Maternal), Hindi (Fluent), English (Fluent), French (Elementary), German (Elementary)

REFERENCES

Professor Luc Van Gool, ETH Zurich, Switzerland.

Professor Fabio Cuzzolin, Oxford Brookes University, UK.

Professor Leonid Sigal, University of British Columbia, Canada.

Professor Philip Torr, University of Oxford, UK.

Dr. Georgios Evangelidis; Snap, Vienna, Austria.

Dr. Andreas Lehrmann, BorealisAI, Vancouver, Canada.

Professor Bob Fisher, University of Edinburgh, UK.

Dr. Amit Kale, Bosch Research, India.

MORE INFORMATION

Google Scholar: <https://scholar.google.com/citations?user=w8XHUMIAAAAJ&hl=en>

Homepage: <http://gurkirt.github.io/>

Github: <https://github.com/gurkirt>

LinkdIn: <https://www.linkedin.com/in/gurkirt/>