Gurkirt Singh

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Experience — 6+ Years in Academia, 3+ Years in Industry

Postdoctoral Fellow,	*CVL, ETH Zurich, CH*	*Feb. 2020 - Present*
Research Intern & Engineer,	*Perception Team, INRIA Grenoble, FR*	*Feb. 2013 - Sep. 2013*
Research Assistant,	*VGL IIT Delhi, IN*	*May 2011 - Apr. 2012*
Research Assistant,	*SMSS lab, IIT Kanpur, IN*	*Jul. 2010 - Mar. 2011*
Research Intern,	*University of Edinburgh Edinburgh,UK*	*Jan. 2010 - May 2010*
Research Intern,	*BorealisAI Vancouver, CA*	*Feb. 2019 - May 2019*
Research Intern,	*Disney Research Pittsburgh, US*	*Feb. 2017 - Jul. 2017*
Research Engineer,	*Siemens Corporate Research Banglore, IN*	*Oct. 2013 - Aug. 2015*

Education

Oxford Brookes University, Oxford, UK	*PhD in Computer Vision*	*Sep. 2015 - Nov 2019*
ENSIMAG, INP, Grenoble, FR	*MSc in Informatics*	*Sep. 2012 - Jun. 2013*
VIT University, Vellore, IN	*B.Tech in Electronics*	*Aug. 2006 - May 2010*

Selected Publications — 18+ in TPAMI, ICCV, CVPRw, ECCVw, WACV, ACCV, BMVC, ICPR

G. Singh, V. Choutas, S. Saha, F. Yu, L.V. Gool, Spatio-Temporal Action Detection Under Large Motion, *WACV,* 2023

G. Singh, S. Akrigg,....*et al.*, F. Cuzzolin, ROAD: The ROad Event Awareness Dataset for Autonomous Driving, *TPAMI,* 2023

G. Singh, F. Cuzzolin, Recurrent Convolutions for Causal 3D CNNs, *ICCVW,* 2019

G. Singh, S. Saha and F. Cuzzolin, Predicting Action Tubes, *ECCVW,* 2018

G. Singh, S. Saha, M. Sapienza, P.H.S. Torr, F. Cuzzolin, Online Real-time Multiple Spatiotemporal Action Localisation, *ICCV,* 2017

G. Evangelidis, **G. Singh**, R. Horaud, Skeletal Quads: Human action recognition using joint quadruples, *ICPR,* 2014

Selected Awards & Challenges

Won Multisports-Challenge, DeeperAction ECCV'22.

Selected in Doctoral Consortium ICCV-2019.

Best Reviewer award for ICCV-2019.

150th Anniversary PhD Scholarship, Oxford Brookes University.

Second place, ActivityNet-Challenge 2016, Detection tasks.

Hands-on Skills — (Years)

Python(6), Matlab(5), C/C++(3), Lua(1).

PyTorch(5), Torch(1), Caffe(2), TensorFlow(1), Keras(1).

Open3D(1), Scikit-Learn(6), OpenCV(10), Eigen(1).

Wandb(2), Tensorboard(4), Visdom(2), Lightning(1).

PySLowFast(2), YOLO(2), Detectron(1), MMCV(1).

iOS APP-Dev(0.5), TorchLite(0.5), TFLite(0.5), ONNX(0.5).

Code-review, Unitesting, Git, SVN.

AWS, Colab, Slurm(4+), Sbatch(2+), DGX(2+).

Manged 6+ machines with GPUs for 3 years .

Mentoring, Teaching, Contributions

Mentored 8 master (6 months each), 2 PhD (1 year), 3 Undergraduate (3 months) students towards succesfull thesis outcomes.

Mentored 3 undergraduate interns at Siemens.

Regularly taught Computer Vision and Machine Learning Lectures for Postgraduates, and held labortory sessions for Understanding Programming (Python) course for undergraduates during PhD years.

Co-orgnised workshop with ROAD Challenge in ICCV 2021.

Workshop and challenge for surgeon action detection, MIDL 2020.

Regular reviewer for TPAMI, CVPR, ICCV, ECCV, BMVC, IJCIA.

Multple open source projects with 700+ stars on GitHub.

Recent Research Experience

7+ years in human action recognition, detection and video processing.

3D-reconstruction, depth estimation, point-cloud registration and semantic segmentation of teeth images for Zaamigo AG.

Improvised tracking to improve action detection and other projects.

Implmented object detectors for various research project..

2D/3D human pose estimation in student project and early research on skeltal action recognition.