Kshitij Dwivedi

Final Year PhD Student
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Goethe University Frankfurt, Germany

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Education

2020-2022
PHD IN CSE
Goethe University Frankfurt, Germany

2009-2014
MASTERS IN EE
IIT Kanpur, India

2009-2014
BACHELORS IN EE
IIT Kanpur, India

Skills

LANGUAGES
Python, C/C++

FRAMEWORK
Pytorch, Tensorflow, Matlab

Teaching

Computer Vision, GU Frankfurt
Neuromatch Academy
EEG MVPA Course
Data Structures, IIT Kanpur

Supervision

MASTER'S THESIS
Andrei Kitaitsev
Vanshika Bawa
Daniel Pietschmann
Yannic Vorpahl

BACHELOR'S THESIS
Domenic Bersch
Quang Anh Le Hong
Martin Pflaum
Raphael Leuner
Marta Paula Balode

Links

Google Scholar: // **kshitijd20**
Semantic Scholar: // **kshitijd20**
Github:// **kshitijd20**
Linkedin:// **kshitijd20**

Research Experience

July-Sep '21 **Allen Institute for AI, USA** **Research Intern (Remote)**
Interpreting representations learned by embodied agents trained to perform navigation tasks in virtual environments (CVPR 22)

2019-now **Free University, Berlin, Germany** **Visiting student**
Modeling human visual system to explain fMRI, EEG responses (Co-organized human brain activity prediction challenge: Algonauts)

2020-Now **Goethe University, Frankfurt, Germany**
2018-2019 **SUTD, Singapore** **PhD Student**
Applying computer vision to understand human visual system (JoCN 20, PLOS Comp Bio 21), Transfer learning (CVPR 19, ECCV 20)

2017-2017 **ATR, Kyoto, Japan** **Research Engineer**
Reconstruction of perceived images from brain activity using deep learning and GAN (Frontiers in Computational Neuroscience, 19)

2014-2017 **Samsung Research Institute, India** **Senior Software Engineer**
Computer Vision applications for Samsung smartphone cameras (Patent on segmentation, Tracking paper, Saliency paper)

Selected Publications (see more at)

- What do navigation agents learn about their environment? **CVPR 22**
  K. Dwivedi , G. Roig, A. Kembhavi, R. Mottaghi
- Unveiling functions of the visual cortex using task-specific deep neural networks. **PLOS Computational Biology 21**
  K. Dwivedi , M.F. Bonner, R.M.Cichy*, G. Roig*
- Representation Similarity Analysis for Efficient Task taxonomy and Transfer Learning. **CVPR 19**
  K. Dwivedi , G. Roig

Talks

- From functional mapping of human visual cortex to Transfer learning using RSA **Facebook Reality Labs, New York, 2021**
- Estimating Transfer learning performance using Representational Similarity **Google Brain, Toronto ; FiveAI, Oxford, 2021**
- Algonauts 2021: hands-on tutorial on development kit for challenge participation **CCN, 2021**
- Unveiling low-level to high-level functions of visual cortex using task-specific deep neural networks **TeaP Symposium, 2021**

Achievements

- Lead Teaching Assistant in Neuromatch Academy, 2020
- Attended Brain, Minds and Machines (BMM) summer school 2019
- SUTD President's Graduate Fellowship (January, 2018 – July, 2019)
- First place in LSUN Saliency Challenge, CVPR 2016.