VIJAY RENGARAJAN ANGARAI PICHAIKUPPAN

5000 Forbes Avenue, B44, Porter Hall
Department of Electrical and Computer Engineering
Carnegie Mellon University
Pittsburgh, PA 15217

Phone: +1 412-517-2181
Email: `vangarai@andrew.cmu.edu`
Email: `urapvr@gmail.com`
Web page: `apvijay.github.io`

RESEARCH AREAS Image processing, computer vision, and computational photography.

WORK EXPERIENCE

Carnegie Mellon University, Pittsburgh, USA December 2017 – now
Research Scientist
Working with Dr. Aswin Sankaranarayanan to develop techniques that make cameras capture fast motion with sharp textures.

Motorola India Private Ltd., Bengaluru, India August 2008 – July 2011
Software Engineer
Software development and test engineer for CDMA-EVDO base station products.

EDUCATION

Indian Institute of Technology Madras, Chennai, India August 2011 – November 2017
Ph.D., Electrical Engineering
Guides: Prof. A.N.Rajagopalan and Prof. R. Aravind
CGPA: 9.41/10

PSG College of Technology, Coimbatore, India August 2004 – May 2008
Bachelor of Engineering, Electronics and Communication Engineering
CGPA: 9.48/10

PUBLICATIONS

1. *Vijay Rengarajan*, Shuo Zhao, Ruiwen Zhen, John Glotzbach, Hamid Sheikh, and Aswin C. Sankaranarayanan. "Photosequencing of Motion Blur using Short and Long Exposures," preprint at https://arxiv.org/abs/1912.06102.

2. Nimisha T M, *Vijay Rengarajan*, and A.N. Rajagopalan. "Semi-supervised Learning of Camera Motion from a Blurred Image," in International Conference on Image Processing (**ICIP**), October 2018.

3. *Vijay Rengarajan*, Yogesh Balaji, and A.N. Rajagopalan. "Unrolling the Shutter: CNN to Correct Motion Distortions," in International Conference on Computer Vision and Pattern Recognition (**CVPR**), July 2017.

4. *Vijay Rengarajan*, A.N. Rajagopalan, R. Aravind, and Guna Seetharaman. "Image Registration and Change Detection under Rolling Shutter Motion Blur," IEEE Transactions on Pattern Analysis and Machine Intelligence (**PAMI**), November 2016.

5. *Vijay Rengarajan*, Abhijith Punnappurath, and A.N. Rajagopalan. "Rolling Shutter Superresolution in Burst Mode," in International Conference on Image Processing (**ICIP**), September 2016.

6. *Vijay Rengarajan*, A.N. Rajagopalan, and R. Aravind. "From Bows to Arrows: Single Image Rolling Shutter Rectification," in International Conference on Computer Vision and Pattern Recognition (**CVPR**), June 2016.

7. Abhijith Punnappurath, *Vijay Rengarajan*, and A.N. Rajagopalan. "Rolling Shutter Superresolution," in the Proceedings of IEEE International Conference on Computer Vision (**ICCV**), December 2015.

8. *Vijay Rengarajan*, Sheetal B. Gupta, A.N. Rajagopalan, and Guna Seetharaman. "Illumination Robust Change Detection with CMOS Imaging Sensors," in SPIE Defense + Security Symposium, International Society for Optics and Photonics, April 2015.

9. *Vijay Rengarajan*, A.N. Rajagopalan, and R. Aravind. "Change Detection in the Presence of Motion Blur and Rolling Shutter Effect," in European Conference on Computer Vision (**ECCV**), Springer International Publishing, September 2014.

10. *Vijay Rengarajan*, A.N. Rajagopalan, and R. Aravind. "Motion Estimation and Classification in Compressive Sensing from Dynamic Measurements," in the Proceedings of IEEE International Conference on Pattern Recognition (**ICPR**), August 2014.

11. *Vijay Rengarajan*, Abhijith Punnappurath, A.N. Rajagopalan, and Guna Seetharaman. "Efficient Change Detection for Very Large Motion Blurred Images," in the Proceedings of IEEE Conference on Computer Vision and Pattern Recognition Workshop on Registration of Very Large Images, June 2014.

AWARDS

Travel Grant from Google India Pvt. Ltd. to travel to the IEEE Conference on Computer Vision and Pattern Recognition (CVPR) 2017 held at Honululu, USA.
Doctoral Consortium Participation and Travel Award for the IEEE Conference on Computer Vision and Pattern Recognition (CVPR) 2016.
Institute Research Scholar Award for excellence in research awarded by Indian Institute of Technology Madras in April 2015.

ACADEMIC ACTIVITIES

Reviewer for the following publications and conferences:
Transactions on Image Processing (*TIP 2019*), International Conference on Computer Vision and Pattern Recognition (*CVPR 2018, 2019*), International Conference on Computer Vision (*ICCV 2019*), Neural Information Processing Systems (*NeurIPS 2016*), Association for the Advancement of Artificial Intelligence (*AAAI 2020*), Winter Conference On Applications of Computer Vision (*WACV 2016–2019*), Asian Conference on Computer Vision (*ACCV 2018*), Indian Conference on Computer Vision, Graphics and Image Processing (*ICVGIP 2016*).

Teaching Assistant, Indian Institute of Technology Madras   August 2011 – July 2017
Assisted in preparing and conducting lab assignments and class tutorials for the following courses:
Image Signal Processing - Prof. A.N. Rajagopalan
Digital Signal Processing and *Probability Foundations* - Prof. R. Aravind
Computational Photography - Prof. Kaushik Mitra

RELEVANT COURSEWORK

Image Signal Processing	Digital Video Processing
Digital Signal Processing	Pattern Recognition
Optimization Methods	Advanced Digital Signal Processing
Probability Foundations	Detection and Estimation Theory
Functional Analysis	Mathematical Methods and Algorithms

REFERENCES

Prof. Aswin Sankaranarayanan	**Prof. A.N. Rajagopalan**
Associate Professor	Professor
Dept of Elec. and Computer Engineering	Department of Electrical Engineering
Carnegie Mellon University, USA	Indian Institute of Technology Madras
saswin@andrew.cmu.edu	raju@ee.iitm.ac.in