# Shashanka Venkataramanan

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Homepage
Github: shashankvkt

## Education

2020–2024 **INRIA**
*PhD in Computer Science.*
Advisors: Yannis Avrithis, Ewa Kijak and Laurent Amsaleg

## Publications

NeurIPS 2023 S. Venkataramanan, E. Kijak, L. Amsaleg, Y. Avrithis, **Embedding Space Interpolation Beyond Mini-Batch, Beyond Pairs and Beyond Examples**.

CVPR 2022 S. Venkataramanan, E. Kijak, L. Amsaleg, Y. Avrithis, **AlignMixup: Improving Representations By Interpolating Aligned Features**.

ICLR 2022 S. Venkataramanan, B. Psomas, E. Kijak, L. Amsaleg, K. Karantzalos, Y. Avrithis, **It Takes Two to Tango: Mixup for Deep Metric Learning**.

ECCV 2020 S. Venkataramanan, K-C. Peng, R.V. Singh, A. Mahalanobis, **Attention Guided Anomaly Localization in Images**.

ICIP 2020 B. McIntosh, S. Venkataramanan, A. Mahalanobis, **Target Detection in Cluttered Environments using Infrared Images**.

IEEE TIFS 2019 S.P. Mudunuri*, S. Venkataramanan*, S. Biswas, **Dictionary Alignment with Re-ranking for Low Resolution VIS-NIR Face Recognition**. (* equal contribution).

## Preprints

arXiv 2023 S. Venkataramanan, M. Rizve, J. Carreira, Y. Asano, Y. Avrithis, **Is ImageNet worth 1 video? Learning strong image encoders from 1 long unlabelled video**.

arXiv 2023 S. Venkataramanan, A. Ghodrati, Y. Asano, F. Porikli, A. Habibian, **Skip-Attention: Improving Vision Transformers by Paying Less Attention**.

## Experience

May 2022 - Nov 2022 **Research Intern**, *Qualcomm AI Research*
Amsterdam, Netherlands.
- Worked on improving the efficiency of vision transformers.
- Proposed to approximate the MSA block using a novel parametric function; achieves higher performance in image classification, semantic segmentation, and image and video denoising.
- Achieved up to 35% on-device reduction in latency on Qualcomm "Snapdragon" 8 Gen.1 Mobile Platform.

May 2019 - Aug 2019 **Research Intern**, *Siemens Corporate Technology*
Princeton, USA.
- Worked on detecting and localizing anomalies, such as machine tools in an industrial inspection setting.
- First to propose supervision on attention maps to localize anomalous regions in an unsupervised setting across industrial inspection, surveillance, and medical imaging applications.

June 2017 - June 2018 **Research Fellow**, *Indian Institute of Science*
Banglore, India.
- Developed re-ranking algorithms using dictionary learning to improve recognition of low-resolution NIR faces.
- Proposed a cross-modal NIR-VIS dataset comprising human faces captured with variations across pose, illumination and distance from the camera.

## Skills

Languages Python, C/C++
Frameworks Keras, PyTorch, Caffe
Utilities Anaconda, Git, OpenCV, Pandas, NumPy, Scikit-learn, MATLAB, LaTeX, Sublime Text, Jupyter Notebook