# TARUN KALLURI

Webpage | Google Scholar | LinkedIn | GitHub | sskallur@eng.ucsd.edu

## RESEARCH INTERESTS

- **Label Efficient Learning:** Self/semi/weakly-supervised learning in Computer Vision.
- **Domain Adaptation:** Domain Adaptation, Transfer Learning.
- **Trustworthy ML:** Fairness, Explainability and Robustness in AI.

## EDUCATION

- **University of California San Diego (UCSD)** *Fall 2019 - Present*
  PhD in Center for Visual Computing ***CGPA: 3.9/4.0***
- **Indian Institute of Technology (I.I.T.) Guwahati** *May 2016*
  Major in Electronics and Communication (ECE), with minor in CSE. ***CGPA: 9.03/10.0***

## RESEARCH & PROFESSIONAL EXPERIENCE

- **PhD research**, UC San Diego, CA, USA *Fall 2019-*
  **Mentors**: Manmohan Chandraker
  Worked on multiple projects on unsupervised domain adaptation and transfer learning on large-scale datasets, fine-grained datasets, domains with disparate label spaces and geographical robustness with multiple top-tier publications in CVPR, ICCV, ECCV and WACV.
- **Facebook (Meta) AI Research**, Menlo Park, CA, USA *Summer 2021*
  **Mentors**: Du Tran, Lorrenzo Torresani, Heng Wang
  Built novel solutions towards robust and **open world instance segmentation** using hybrid approaches combining top-down and bottom-up supervision resulting in $\sim 5\%$ mAR improvement on unseen test classes.
- **Facebook (Meta) AI Research**, Menlo Park, CA, USA *Summer 2020*
  **Mentors**: Du Tran, Deepak Pathak
  Developed a **fast and efficient video frame interpolation** technique, without requiring any flow or depth information with up to $6\times$ improvements in inference speed.
- **Applied Research Labs**, IIIT Hyderabad, India *Sep. 2017 - Aug. 2019*
  **Mentors**: C.V. Jawahar
  Completed project on semi-supervised learning for **semantic segmentation on Indian roads** using limited supervision by proposing a novel feature alignment module achieving SOTA result using as few as 50 labeled images from Indian roads.
- **Oracle India Pvt. Ltd.**, Bengaluru, India *July. 2016 - Aug. 2017*
  **Role**: Applied Data Scientist - SaaS Provisioning
  Developed automation tools for diagnosis of large scale cloud instance provisioning, upgrade and patching.

## PUBLICATIONS

- **MemSAC: Memory Augmented Sample Consistency for Large-Scale Domain Adaptation**. **Tarun Kalluri**, Astuti Sharma, Manmohan Chandraker. **ECCV, 2022.**
- **FLAVR: Flow-Agnostic Video Representations for Fast Frame Interpolation**. **Tarun Kalluri**, Deepak Pathak, Manmohan Chandraker, Du Tran. **WACV, 2023.**
- **Cluster-to-adapt: Few Shot Domain Adaptation for Semantic Segmentation across Disjoint Labels** , **Tarun Kalluri**, Manmohan Chandraker. **L3D-VIU Workshop, CVPR, 2022.**
- **Instance Level Affinity Based Transfer for Unsupervised Domain Adaptation** Astuti Sharma, **Tarun Kalluri**, Manmohan Chandraker. **CVPR, 2021.**
- **Universal Semi-supervised Semantic Segmentation**. **Tarun Kalluri**, Girish Varma, Manmohan Chandraker, Jawahar, C.V. **ICCV, 2019.**

- **Semantic Segmentation Datasets for Resource Constrained Training**. **Tarun Kalluri** , Ashutosh Misra*, Sudhir Kumar, Girish Varma, Anbumani Subramanian, Manmohan Chandraker, Jawahar, C.V. In **NCVPRIPG 2019**. [**Oral**]

## SKILLS

- **Programming Language:** MATLAB, C++, Python, Verilog, VHDL, Java, HTML/CSS, SQL, Bash/Unix.
- **Software Packages:** TensorFlow, PyTorch, OpenCV, Jupyter, R, Pandas, Keras, Scikit-learn.

## TALKS & PRESENTATIONS

- **Domain adaptation for urban scene understanding**
  - *Augmented Reality and Self-Driving workshop*, Qualcomm San Diego, June 2020.
  - *SIAM Conference on Computational Science and Engineering*, March 2021.
- **MemSAC: Memory augmented consistency for large-scale domain adaptation**
  - *Pixel Cafe*, CSE UCSD, Feb 2022.

## ACADEMIC SERVICE

- **Reviewer:** ICLR 2022, CVPR 2022, ECCV 2022, AAAI 2022, NeurIPS 2022, WACV 2022, TMLR, Pattern Recognition Journal.
- **Co-Organizer**: *Multiple Object Tracking and Segmentation in Complex Environments* workshop in ECCV 2022.

## HONORS & AWARDS

- Selected as highlighted reviewer at ICLR 2022. *2022*
- Recipient of IPE PhD fellowship (link) 2020-21 for contribution towards practical ethics in AI. *2021*