

# Sauradip Nag

Researcher and Engineer

+1 7783234784

sauradipnag95@gmail.com

Vancouver, CA

[in/sauradip](#)

[github.com/sauradip](#)

[x.com/saura](#)

## Career Highlights

- **14 Co-authored  $A^*$  publications (w/ 9 First-author):** 3 papers in ECCV, 4 papers in SIGGRAPH, 2 papers in AAAI (1 Oral) and 1 paper each in CVPR, ICCV, NeurIPS, ICLR, ICASSP covering Vision, Graphics and NLP domain.
- **More than 4 years of Engineering Experience:** Research Engineer on *Deep Learning for Embedded Systems* for 2 years + *Software Development and Research Scientist/Engineering Internship* experience for 2.5 years
- **4 years of Teaching and Supervising Experience:** Supervised 6 PhD students combined in University of Surrey, Simon Fraser University for 4 years + Teaching Assistant for 2 courses for 8 months in University of Surrey.

## Area of Expertise

a) Large Scale Training (DDP,MP,PEFT) - b) Foundation Models (LLM, Stable Diffusion, SAM, LLM, CLIP) - c) Generative Models (Flow-Matching, Diffusion, GAN, VAE) - d) Programming Language (Python, C++) - e) Deep Learning Stack (PyTorch, Tensorflow) - f) 3D Engine (Blender, Maya)

## Professional Experience

**Postdoctorate Researcher, (*Simon Fraser University*)**

**Burnaby, Canada** 03/2024 - present

- Published 6 top conference paper in TOG, SIGGRAPH, SIGGRAPH ASIA, ICLR, NeurIPS and supervising 4 PhD students.
- Developing foundation models for 4D generation in a feedforward fashion which can generate results in 10 seconds.
- Fine-tuned a custom 3D and Video segmentation model which increases efficiency by 3x and better quality.
- Wrote proposals to obtain research grant worth 500K USD.

**Research Scientist Intern, (*Huawei Noah's Ark Lab*)**

**London, UK** 11/2022 - 08/2023

- Published 2 top conference papers in ICCV and AAAI (Oral).
- Trained a Large Scale Diffusion Model for Video and Audio Understanding.
- Worked on 3D Human Mesh Texturing and 3D Diffusion Models.

**Research Associate/Engineer, (*ICSR, IIT Madras*)**

**Chennai, India** 08/2018 - 03/2020

- Developed the first night-time scene segmentation model which can run at 15 FPS, published as Spotlight Paper in ICIP.
- Implemented RGBD-SLAM for edge devices with a RoboticOS wrapper for realtime path planning and improved accuracy by 30%
- Supervised a team of 2 Masters and 1 PhD student for succesful project delivery ahead of time and improved efficiency.

**Computer Vision Developer Intern, (*GISCLE Systems*)**

**Bengaluru, India** 01/2018 - 08/2018

- Worked on Advance Lane Detection System for Autonomous Cars in India
- Solved 0  $\rightarrow$  1 problem in Level2 Autonomous Driving using computer vision.
- Collected and Annotated 60+ Hours of Driving Videos and trained Deep Learning Models.

**Software Development Engineer Intern, (*Apnastudy Technologies*)**

**Texas, USA** 02/2016 - 7/2017

- Worked on developing AI based Learning Management Systems using MEAN Stack
- Reached 110% of customer acquisition target, capturing 1000 new subscribers in first month of launch.
- Managed both Frontend and Backend Production Servers

## Education

**PhD Electrical Engineering** *University of Surrey*

**Guildford, UK** 2020-2024

Research Focus on Generative & Multi-modal Video Understanding; Published 6 First Author paper in Top Conferences liek CVPR,ICCV,ECCV,AAAI ; Teaching Assistant in 2 CS courses; Research Intern for 8 months at Huawei London.

**B.Tech Computer Engineering** *Kalyani Government Engineering College*

**West Bengal, India** 2014-2018

Research Focus on Vector Graphics and Image Understanding; Published paper in Top Conferences like ICASSP, ICDAR and journals like Pattern Recognition; Interned in 2 startups for combined 2 years of Software Development experience

## Selected Publications\*

---

- **CountLoop: Training-Free High Instance Image Generation via Agent Guidance** *Under Review* 2025  
Anindya Mondal, **Sauradip Nag\***, Ayan Banerjee\*, Xiatian Zhu, Josep Lados, Anjan Dutta  
*We propose the first training-free model for high instance image generation using MLLM as a critique*
- **Articulate That Object Part: 3D Part Articulation from Text and Motion** *Trans. of Graphics (TOG)* 2026  
Aditya Vora, **Sauradip Nag**, Kai Wang, Richard Zhang  
*We propose a novel approach to articulate 3D mesh fine-tuned using personalized Multi-View T2V priors*
- **RespoDiff: Dual-Module Bottleneck Transformation for Safe Image Generation** *NeurIPS* 2025  
Silpa VS, **Sauradip Nag**, Muhammad Rana, Serge Belongie, Anjan Dutta  
*We solve the problem of Responsible T2I generation using a new score distillation objective*
- **ASIA: Adaptive 3D Segmentation using Few Image Annotations** *SIGGRAPH Asia* 2025  
Sairaj Kishore, **Sauradip Nag\***, Aditya Vora\*, Ali-Mahdavi Amiri, Richard Zhang  
*We propose a customized 3D mesh segmentation approach using T2I Diffusion with Multi-View consistency*
- **In-2-4D: Inbetweening from Two Single-View Images to 4D Generation** *SIGGRAPH Asia* 2025  
**Sauradip Nag**, Daniel Cohen-Or, Richard Zhang, Ali-Mahdavi Amiri  
*We propose a new problem of 4D generation from sparse views in a novel divide-and-conquer strategy*
- **Cora: Correspondence-aware image editing using few step diffusion** *SIGGRAPH* 2025  
Amir M.\*, Aryan Mikaeili\*, **Sauradip Nag**, Negar Hassanpour, Andrea Tagliasachi, Ali-Mahdavi Amiri  
*We propose the first few-step non-rigid image editing approach using point correspondence*
- **SMITE: Segment Me in Time** *ICLR* 2025  
Amir Mohammadi, **Sauradip Nag**, Saeid Asgari Taghanaki, Andrea Tagliasacchi, Ali-Mahdavi Amiri  
*We solved a novel task of few-shot customized video segmentation using T2V Diffusion*
- **DiffTAD: Temporal Action Detection with Proposal Denoising Diffusion** *ICCV* 2023  
**Sauradip Nag**, Xiatian Zhu, Jiankang Deng, Yi-Zhe Song, Tao Xiang  
*We proposed and trained the first Transformer based Diffusion model for Video Action Understanding*
- **Multi-Modal Few-Shot Temporal Action Detection** *Arxiv Preprint* 2023  
**Sauradip Nag**, Mengmeng Xu, Juan Perez Rua, Xiatian Zhu, Bernard Ghanem, Yi-Zhe Song, Tao Xiang  
*We trained a large scale VLM model for Videos end-to-end to solve a new task of Multi-Modal Few-Shot Learning*
- **Post-processing Temporal Action Detection** *CVPR* 2022  
**Sauradip Nag**, Xiatian Zhu, Yi-Zhe Song, Tao Xiang  
*We proposed a training-free method to solve Video Action Localization using Taylor Series Expansion*
- **Zero-Shot Temporal Action Detection via Vision-Language Prompting** *ECCV* 2022  
**Sauradip Nag**, Xiatian Zhu, Yi-Zhe Song, Tao Xiang  
*We proposed the first VLM based Video Action Localization method*
- **Semi-Supervised Temporal Action Detection with Proposal-Free Mask Learning** *ECCV* 2022  
**Sauradip Nag**, Xiatian Zhu, Yi-Zhe Song, Tao Xiang  
*We proposed a SSL based Video Action Localization method to reduce data bias*
- **Proposal-Free Temporal Action Detection using Global Segmentation Mask Learning** *ECCV* 2022  
**Sauradip Nag**, Xiatian Zhu, Yi-Zhe Song, Tao Xiang  
*We proposed a new single-stage Video Localization framework which can be trained under 15 mins*

## Honors and Awards

---

- **AAAI Top 2% Paper** Oral in AAAI 2024 for *DiffSED* paper
- **ICIP Top 10% Paper**: Spotlight in ICIP 2019 for *What's There in the Dark* paper
- **Runners Up CVPR Workshop**: Award in FGVC9 Worskhop in 2022 for *Fine-grained Retrieval* work
- **IflyTek Fully Funded PhD Scholarship**: Received fully funded scholarship for 3.5 Years of PhD in UK
- **Oxford ML Summer School**: Presented a invited talk on *Video Understanding in Industry*
- **Smart India Hackathon Silver**: Award in 2019 Hackathon on solving practical computer vision problem