# Rohun Tripathi

rohun-tripathi.github.io

# Education

Masters in Computer Science   Cornell Tech, Cornell University         MK Tata Scholarship, 2017	2017-2018
BTech in Computer Science   Indian Institute of Technology, Kanpur	2011-2015
Academic excellence award for Rank 1 in the academic year 2013-14	
Charpak Scholarship for research semester in France, 2014	

#### **Professional Experience**

8+ years of experience in Computer Vision (Object Detection/Segmentation), Generative AI (MLLMs, GANs, Diffusion Models, NeRF), Face Modeling, Robotics, Natural Language Processing and software engineering.

• Research Engineer — Allen Institute for AI, US	2023 - Present
• Applied Scientist — Amazon, US	2018-2023
• Research Engineer — IBM Research, India	2017
• Software Engineer — Sprinklr, India	2015-2017
• Research Intern — Samsung Research, India	Summer 2014

## Publications

- SIDGAN: High-Resolution Dubbed Video Generation via Shift-Invariant Learning. U Muaz, W Jang, *R Tripathi*, S Mani, W Ouyang, R T Gadde, B Gecer, S Elizondo, R Madad, N Nair. ICCV 2023.
- Mod<br/>EFormer: Modality-preserving embedding for audio-video synchronization using transformers. A Gupta, <br/> R Tripathi, W Jang. ICASSP 2023.
- Automatic Generation of Secure and Usable Audio reCAPTCHA. *R Tripathi\**, M Jain\*, P Kumar, S Patel. ASSETS 2019.
- Semantic Segmentation with Scarce Data. R Tripathi<sup>\*</sup>, I Katsman<sup>\*</sup>, A Veit, S Belongie. ICML Workshops 2018.
- Enterprise scale privacy aware occupancy sensing. S S K Sajja, A P K S Prakash, *R Tripathi*, S Dwivedi, A Singhee, M Vermeulen. IEEE EDGE Workshops 2018.

## **Pre-prints**

- RSO: A Gradient Free Sampling Based Approach For Training Deep Neural Networks. R Tripathi, B Singh.
- ASAP-NMS: Accelerating Non-Maximum Suppression Using Spatially Aware Priors. *R Tripathi\**, V Singla\*, M Najibi, B Singh, A Sharma, L Davis.
- Single-View Height Map Prediction for Satellite Imagery. R Tripathi, N Snavely, K Zhang.

#### **Relevant Projects**

<ul> <li>Conditional Video Generation, Amazon Prime Video</li> <li>Developed video GANs, Diffusion Models and NeRFs, with generation driven by different modalities.</li> <li>Developed audio-video synchronization models with SoTA performance.</li> </ul>	Present
<ul> <li>Few-shot Product Identification, Amazon Go</li> <li>Developed angle-aware product identification for unseen classes using learned representations.</li> <li>Developed scene understanding models to identify areas of merchandising.</li> <li>Led team of 3 scientists to deploy both models in Go stores and select Whole Foods stores.</li> </ul>	2021
<ul> <li>Customer Association, Amazon Go</li> <li>Developed and deployed human-object interaction model for multi-camera video data.</li> </ul>	2019
<ul> <li>Gradient-Free Optimization of Neural Networks</li> <li>Optimized a 10-layer deep network by perturbing the weights sequentially.</li> <li>Demonstrated better performance than ES and on par with SGD for image classification.</li> </ul>	2019

#### Patents

Performance characteristic transfer for localized content. R Tripathi, A Saha, N S Nair. Filed.

#### Skills