

Rohun Tripathi

CONTACT	rt443@cornell.edu rohun-tripathi.github.io	
INTERESTS	Visual Perception, Machine Learning, 3D Vision	
EDUCATION	Cornell Tech , Cornell University, New York Master of Engineering in Computer Science, 2017 - 2018 <i>GPA 4.05/4.00</i> Indian Institute of Technology , Kanpur, India Bachelor of Technology in Computer Science and Engineering, 2011 - 2015	
PROFESSIONAL EXPERIENCE	Research Scientist - Amazon	Jul 2018 - Present
	• Working on human object interaction in images and action detection in videos	
	Research Engineer - IBM Research	Feb 2017 - Aug 2017
	• Prototyped IoT solutions for energy and space optimization in round-the-clock office spaces	
	Software Engineer - Sprinklr	Aug 2015 - Jan 2017
	• Developed ad performance forecasting using MLPs for online budget allocation	
	Intern - Samsung Research	Jun 2014 - Jul 2014
	• Implemented word prediction models for Bangla-language using RNN models	
	Intern - Tata Consultancy Services	Jun 2013 - Jul 2013
	• Developed a bio-metric based secure and transparent resource distribution system	
PUBLICATIONS	R. Tripathi, N. Snavely; Single-View Height Map Prediction for Satellite Imagery, In submission, CVPR 2019 R. Tripathi*, I. Katsman*, A. Veit, S. Belongie; Semantic Segmentation with Scarce Data, ICML Workshops, 2018 S. S. K. Sajja, A. P. K. S. Prakash, R. Tripathi, S. Dwivedi, A. Singhee, M. Vermeulen; Enterprise scale privacy aware occupancy sensing, IEEE EDGE Workshops, 2018 R. Tripathi*, M. Jain*, P. Kumar, S. Patel; Automatic Generation of Secure and Usable Audio reCAPTCHA, In submission R. Tripathi, A. Gill; RNN based Indic word-wise script identification using character-wise training, ICPRS 2017	
AWARDS AND SCHOLASTIC ACHIEVEMENTS	M.K. Tata Scholar, Scholarship for Masters at Cornell, 2017-18 Scholarship for South Asia workshop on computing research, National University of Singapore 2015 Academic excellence, IIT Kanpur. Rank 1 in the academic year 2013-14 Charpak Scholar, Scholarship for semester in France from French government, Feb - Jun 2014 Winner, Microsoft Code.fun.do annual nation wide application competition, 2013 Runner-Up in International Robots Got Talent, annual tech festival 2013 at IIT Kanpur A* in courses Computer Vision and Natural Language Processing at Cornell	
TEACHING EXPERIENCE	Teaching Assistant, English Proficiency Program at IIT Kanpur	Jan 2015 - Apr 2015
	Instructor, Nation Social Service,	Jul 2011 - Apr 2015
	Taught basic sciences at the school for the underprivileged at IIT Kanpur	

RESEARCH
PROJECTS

Single-View Height Map Prediction for Satellite Images

Mar 2018 - Jul 2018

Research Assistant at Cornell Tech

- Proposed a new MAE loss designed for learning an end-to-end CNN for height prediction
- Fused predicted surface normals with height maps to improve prediction on sloped terrain
- Presented a new data set collected from 3 sites generated using classical stereo methods

Semantic Segmentation with Scarce Data

Aug 2017 - Apr 2018

- Proposed a new architecture which learns the spatial mapping from coarse to fine annotation and regresses from the coarse/noisy annotation to the fine annotation space
- Method increases mIoU by an average of 15.52 units over the baseline in scarce data settings

Privacy Aware Occupancy Sensing in offices across Multiple Cities

Feb 2017 - Aug 2017

- Implemented indoor location prediction models using a 3-layer dense network in Tensor Flow
- Wrote a real-time data analysis platform in C# using the Mongo Aggregation Pipeline
- Developed a Windows 7 python app for the edge device, leading to a successful pilot

Indic Word Level Script Recognition

Dec 2014 - Jul 2015

- Developed a novel method for online script recognition by training RNNs on character level data for word level data classification
- Models performed on par with word level classifiers, with one-tenth the training time and data
- Extended to offline recognition by developing stroke recovery to retrieve temporal information

SELECT MINOR
PROJECTS

Doctor Handwriting Recognition of Medical Charts

Aug 2017 - Dec 2017

- Developed an end-to-end doctor handwriting recognition and indexing engine for Weill Medical College using a CRNN

Real-Time Hospital Resource Management

Jan 2017 - Feb 2017

- Developed a real-time appointment overbooking application by using a binomial distribution to model patient no-show rates

SKILLS

Python, PyTorch, MXNet, MongoDB, Tensor Flow, Java, C#, Elastic

COURSE WORK

Computer Vision, Machine Learning, Natural Language Processing, Robotics, Data Structures, Algorithms, Optimization Methods