

TARANG SHAH

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Education

Carnegie Mellon University - School of Computer Science (Robotics Institute)

Pittsburgh, PA

MASTER OF SCIENCE IN ROBOTIC SYSTEMS DEVELOPMENT

Aug 2019 - May 2021

- 4.17 GPA, Relevant Courses – Computer Vision, Systems Engineering, Machine Learning, Robot Autonomy
- Capstone – Simulating realistic behavior for traffic agents by learning from real world video data, used for realistic testing of autonomous vehicles software

BITS Pilani (Birla Institute of Technology & Science, Pilani)

Pilani, India

BACHELOR OF ENGINEERING IN ELECTRONICS AND INSTRUMENTATION

Aug 2011 - May 2015

- Worked on various cross discipline projects and courses
- Projects included Gesture Recognition, Humanoid Robotics, Computer Vision, Machine Learning, Electronics

Work Experience

HERE Technologies

Mumbai, India

SENIOR DATA SCIENTIST

Jul 2019 - Aug 2019

SENIOR SOFTWARE ENGINEER

Oct 2018 - Jun 2019

SOFTWARE ENGINEER II

Apr 2017 - Sep 2018

- Built deep learning based vision models and tools to automate creation of maps from street images at the Map Creation team
- Trained and deployed object detection models for detecting 300+ traffic signs in street images using TensorFlow Object Detection framework (based on Faster-RCNN, SSD). Helped increase Recall and Precision to 80%+. Deployed on cloud and mobile products
- Designed & built cloud-based systems to automate data prep, training & evaluation of computer vision models, saving 4X time & reducing errors
- Designed & implemented software for smart sampling of training data across multiple classes for balanced training
- Managed tools and systems for training data storage(images), annotation and sampling, including designing active learning with feedback
- Managed user annotation jobs using both custom and commercial annotation services
- Built proof-of-concept for multimodal models with image & map data. Awarded 'Significant Development' prize (cash prize) for patentable IP
- Designed, built and deployed a service for highway sign parsing(OCR, scene text and icon extraction) and reduced human effort by 5X per user
- Recognized multiple times with 'Star Of the Month' and 'Innovation Awards'

Octoloo Systems

Gurgaon, India

CO FOUNDER

Apr 2016 – Mar 2017

- Octoloo Systems built robots for industries and warehouses. Involved in all aspects of early stage technology ventures.
- Built an industrial robotic arm for automated Pick and Place tasks in factories and warehouses. Y-Combinator W2017 onsite interviewee

Hullo Inc

Mumbai, India

SOFTWARE ENGINEER

Oct 2015 - Mar 2016

- Implemented server with audio routing, and a [parse-server](#) like datastore (improving call latencies by 5x)
- Architected backend services to add auth and verification for clients also implemented MQTT Push notifications

Qualcomm Inc

Hyderabad, India

ENGINEER

Jul 2015 - Sep 2015

- Implemented code for dynamic updating of tuning parameters for camera focus, as campus recruit

HERE Technologies

Mumbai, India

INTERN

Jan 2015 - Jun 2015

- Designed and developed a web GeoJSON editor using Openlayers and OSM

Projects

Team AcYut, CRIS, BITS Pilani

Pilani, India

SENIOR MEMBER AND LEAD (COGNITION AND ELECTRONICS)

Sep 2011 - Dec 2014

- Team AcYut has built India's first Autonomous Humanoid robot and was sponsored by the Government of India[[INR 4.5Mil](#)]
- Built and wrote software for cognition, vision and controllers for soccer playing AcYut 4, 5, 6 and 7 from 2011 to 2014. Represented India at Robocup 2013, Netherlands and Robocup 2012, Iran

Publications & Awards

PUBLICATIONS

Robust gesture recognition using Kinect: A comparison between DTW and HMM, Optik - International Journal for Light and Electron Optics – 2015

AWARDS

2019 - **Significant Development IP Award**, Award from Patent board for POC on hybrid deep learning models. [Here Technologies](#)

2018 - **Innovation Award**, For successful approval of mobile vision deep learning POC to production [Here Technologies](#)

2013 - **4th Place**, Autonomous Humanoid Robot Soccer - Teen Size, Robocup [Netherlands](#)

Skills

Programming: Python, Javascript, JAVA, C++, C

Vision/ML/Data Science: OpenCV, Pandas, TensorFlow, Jupyter

Web: HTML, CSS, NodeJS, Express