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, Visual Learning & Recognition
- Capstone – Simulating realistic behavior for traffic agents, 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 include 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*

- Worked at the Map Creation team, built Deep Learning based vision models and tools to automate creation of maps from street images
- Built deep learning models & services 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'

Octoloop Systems
Gurgaon, India
CO FOUNDER
Apr 2016 – Mar 2017
- Octoloop 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)
- Rearchitectured 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 2014Represented 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
Web: Django, Express, HTML, CSS
Vision/ML/Data Science: OpenCV, Pandas, TensorFlow, Jupyter, ScikitLearn