

Abhishek Venkataraman

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Experience

Nuro

Mountain View, California

TECHNICAL LEAD & MANAGER, BEHAVIOR EVALUATION

Feb 2022 - Present

- Technical Lead for Behavior Core Eval, the main eval solution used by 40+ Engineers. Led a cross functional team of 10 developers & designers
- Worked closely with Senior Leadership including Heads of Behavior, Software to measure weekly behavior improvement on a several ODDs
- My Eval solution was leveraged to accelerate ML adoption in Behavior, improving stack by 36%; this was highlighted by the CEO to investors
- Managed 4 direct reports, overseeing their career growth. Fostered a collaborative team environment, ensuring effective communication and alignment with company goals. Implemented Agile methodologies to streamline project execution and enhance team productivity.
- Lead the product vision and roadmap through Behavior Evaluation Vision workshop, synthesizing user requirements from key stakeholders. Partnered with Simulation, Data Platform, Perception, Systems & Safety, TPM and Product teams to develop a unified solution
- Built high performance web-based tools for mining and managing scenes; used by several teams covering 100+ developers across Autonomy
- Increased team throughput over 50% by identifying and automating time-consuming manual workflows using Buildkite and Retool

May Mobility

Ann Arbor, Michigan

SENIOR ROBOTICS ENGINEER, PERCEPTION

Jun 2018 - Jan 2022

- Architected and deployed a scalable pipeline in AWS/Databricks to ingest field data and calculate metrics to measure autonomy performance
- Architecture lead for interaction with Vulnerable Road Users (VRU)- designed feature from classification to vehicle behavior, team of 3
- Developed end to end semantic classification pipeline for object tracking starting from image acquisition, sensor fusion and temporal tracking
- Spearheaded optimizations for policy rollouts for multi-policy decision-making, enabling 3X speed up of behavior prediction
- Scaled the autonomy stack to work across multiple platforms including Polaris GEM, Lexus, Sienna delivering equivalent ride quality
- Product lead, responsible for software development and deployment for classification of traffic lights with vehicle camera
- Mentored 10+ members of Autonomy and AutoOps, created on-boarding process for new hires, setting them up for success
- Launched and maintained scalable autonomy software in 9 sites across the US and Japan, generating \$1M+ in ride revenue

Ather Energy Pvt. Ltd.

Bangalore, India

SENIOR ENGINEER, TEAM MANAGER

Jul 2015 - Jul 2016

- Managed a team of 6. Architect for vehicle communication and power interfaces, across 6 distributed systems, working closely with the CTO
- Led the development of first fully functional Ather S340 moped, culminating in a successful public launch and extensive media coverage
- Performed system level DFMEA and incorporated hardware changes to accommodate on-board diagnostics

Schlumberger Asia Services Ltd.

Mumbai, India

SENIOR ENGINEER

Jul 2012 - May 2015

- Lead Engineer for ONGC offshore wireline operations; carried out over 80 logging jobs managing a crew of 8
- Delivered on several high profile(\$400K+ revenue) client facing operations in offshore drilling rigs prioritizing quality & safety

Education

University of Michigan

Ann Arbor, Michigan

MASTER'S IN ROBOTICS

2016 - 2018

GRADUATE STUDENT RESEARCH ASSOCIATE

- Researched on interactivity with Personal Robots (Fetch & HSR) using deep neural networks. Publications:
 - Kinematically-informed Interactive perception [Link]
 - SPARE - an extendable articulated object RGBD dataset [Link]

GRADUATE STUDENT INSTRUCTOR

- *Mathematics for Robotics* - linear algebra including, vector spaces, orthogonal basis, SVD, QR Factorization, BLUE, MVE and Kalman Filters
- *Advanced Topics in Computer Vision (ML)* - pictorial structures, graphical models, CNN, GAN, RNN, LSTM, auto-encoders.

Indian Institute of Technology Madras

Chennai, India

B.TECH IN MECHANICAL ENGINEERING

2007 - 2012

Skills

Languages

C++, Python, C, SQL, Javascript, HTML/CSS

Behavior Evaluation - Metrics, Simulation, Scenario management

Perception - segmentation, object tracking, sensor fusion, localization

Autonomous vehicles

Planning - Multi policy decision making, failover planning, intent estimation

Tooling - Camera calibration, 3D mapping, data labelling, workflow automation, data visualization

Sensors - Cameras (RGB, depth), Lidars (Velodyne, Ouster, Cepton), Radar, GPS, IMU, encoders

Tools / Framework

BigQuery, AWS, Distributed systems, git, gdb, valgrind, docker, Jenkins, heaptrack, vtune, Tensorflow, tensorrt, Pytorch, OpenCV

ROS, Jira, Databricks, linux, bazel, mason, Retool, buildkite