Contact

www.linkedin.com/in/parthrd (LinkedIn)
techyaw.wordpress.com (Blog)
scholar.google.com/citations (Other)

Top Skills

C++
Matlab
Product Design

Languages

Hindi (Limited Working)
Marathi (Native or Bilingual)
German (Elementary)

Honors-Awards

Winner of Microsoft code.fun.do Hackathon
Scholarship Awardee
Best Paper Presentation Award

Publications

Vehicle Path Generation and Tracking in Mixed Road Traffic

Parth Deshpande

Incoming Graduate ADAS Engineer at Jaguar Land Rover • IIT Madras | Automotive Controls Lab
Pune

Summary

As an automotive and technology enthusiast, I aim to design and lead solutions for smart, safe, and efficient mobility and connectivity.

I am a dual degree (bachelor's and master's) graduate from IIT Madras, where I pursued research at the Automotive Controls Laboratory.

My diverse experience comes from the research and design problems which I have tackled in academia as well as industry, in the fields of automotive controls, vehicle dynamics, transportation engineering, product design and software development.

Serving as the head of multiple teams at IIT has made me an efficient manager. My additional interests include music and writing.

Experience

Indian Institute of Technology, Madras
Research and Teaching Assistant
August 2017 - August 2020 (3 years 1 month)

• Represented the Automotive Controls Laboratory in two collaborative projects with the Transportation Engineering Division, IIT Madras

Research:

• Modelled lateral motion of a vehicle in congested city traffic by linking vehicle and traffic models; generating and tracking a trajectory using robust steering control methodologies like robust PI and Sliding Mode Control (SMC)
• Modelled passing sight distance using vehicle parameters for safe and sustainable road design

Teaching:

• Conducted lectures on system modelling, and tutorials and assignments on control design for ED2040 - Control Systems
• Conducted lab sessions on C programming, data structures and OpenGL for ED1021 - Introduction to Computation and Visualisation

International publications and presentations:
• P. Deshpande, R. Amrutsamanvar, S. C. Subramanian, "Vehicle Path Generation and Tracking in Mixed Road Traffic", IFAC Advances in Control & Optimization of Dynamical Systems, 2020 - Best paper presentation award.
• P. Deshpande, A. Raj, B. R. Chilukuri, S. C. Subramanian, "Analysis of Overtaking Maneuvers on Freight Corridors considering Road and Vehicle Paramerers", 7th International Workshop on Sustainable Road Freight, 2020, Cambridge, UK (under review)
• A. Raj, P. Deshpande, B. R. Chilukuri, S. C. Subramanian, "Analysis of Passing Sight Distance for a Two-Lane Highway Using Vehicle Dynamics Simulation", Annual Meeting of the Transportation Research Board, 2021 (under review)

Bosch India
System Engineering Intern
December 2018 - May 2019 (6 months)
Bengaluru Area, India

• Worked on calibration in EFI engines and predictive maintenance using ECU algorithms
• Developed a complete system for monitoring air filter condition using system engineering approach from system requirements to FMEA with a working PoC and prototype
• Modelled engine air flow using fitting techniques and system modelling for estimating air charge flow at different engine operating points in a two-wheeler PFI engine
• One of the few interns to present my results to the entire department at their weekly technical session

Tools: ETAS INCA, INCA-FLOW, IQ-RM PRO, MATLAB-Simulink, RS232, chassis dynamometer

Automotive Research Association of India (ARAI)
Summer Researcher in ADAS
June 2017 - July 2017 (2 months)
Pune Area, India

• Worked with the Technology Group at ARAI
• Designed and validated a lateral control strategy for an Automated Driving System which can perform lane keeping and lane changing with obstacle avoidance
• Analysed a cruise control implementation to effectively tune the controllers
• Completed an entire sub-module within a short duration and received acclaim for the same

Tools: MATLAB-Simulink, Scilab, IPG CarMaker, LabView, CAN, chassis dynamometer

Microsoft
Summer Project Member, code.fun.do
May 2016 - July 2016 (3 months)
India

• Represented IIT Madras at Microsoft code fun do Finalists Forum 2016 by winning the campus hackathon
• Worked closely with mentors from Microsoft over three months to develop a platform for Medical Tourism which has the potential to facilitate a medical tour to another country

Tools: C#, XAML, Visual Studio, Xamarin, Azure

Education

Indian Institute of Technology, Madras
Dual Degree, B.Tech. Engineering Design and M.Tech. Automotive Engineering · (2015 - 2020)