M RAKSHITH DARPAN

"Creative and Passionate Automotive Enthusiast, with product design background seeking for a challenging career demanding the best of my professional ability in terms of technical and analytical skills to provide best to the company"

(+91) 9940250615
rakshd18@gmail.com
https://www.linkedin.com/in/rakshith-darpan-9035ab87
Pune, India

EDUCATION

B-Tech: **Engineering Design** and M-Tech: **Automotive Engineering** with Minor: **Management Studies** — **July 2018**
Indian Institute of Technology Madras

PROFESSIONAL EXPERIENCE

Technical Specialist | Continental Automotive Components (India) Pvt Ltd (June 2021 – Present)
Software Developer for Autonomous Driver Assistance System functions — Bengaluru, India

- Heading the **Emergency Brake Assist** system and **Maneuver Detection** functions for the product safety line. Currently supporting projects of the customers (BMW and Honda) for designing the maneuver path prediction in **24** different scenarios of autonomous driving conditions
- **Boosted the efficiency of Evasion Possibility** by reducing the overall computational complexity by **20ms under extreme braking scenarios** and developed machine code mapping various dynamical constraints and verified test results using tools (Visual Studio, Carmaker, and Google Test)
- Independently handling the complete responsibility of **Advance Collision Detection and Control** project taken over from Germany, and have delivered multiple feature design frameworks to enhance the detection algorithm that parallelly supports the customer requirements

Senior Engineer | Robert Bosch Engineering and Business Solutions Limited (August 2018 –May 2020)
Software Developer for Active Safety functions in Autonomous Vehicles — Coimbatore, India

- Expertise lies in Embedded Software Development of **Level 3 and Level 4 Autonomous** Driven vehicles for **Active Safety functions**. Individually handled functional level responsibility for the customers (Daimler, Audi, Porsche, Jaguar, and Land Rover) specific changes in developing brake functionalities at the system as well as in software level to best match with the vehicle performance
- Executed tests for component and software verification using Bosch In-house tools (such as TestIDE, ASCET, ATT, TSDE configuration management and SharCC) to implement and simulate functions by **mapping vehicle parameters to software**
- Responsible for **Highly Autonomous Driving** functions including Vehicle Motion Control, Longitudinal Dynamics Monitor, Adaptive Cruise Control, Cp-Estimation, Cooperative Regenerative Braking, Hill Descent Control, Longitudinal Force Interface and Emergency Mode Control. Along with, **Autonomous Parking** functions including Redundant Brake Facade, Control Deceleration while Parking and Automatic Park Brake
- **Initiated Vehicle level architecture** for braking functions at the department level to understand the software component requirements more profoundly, which showcased an improvement in the platform project team's on-time delivery and quality performance
- **Intensified functionality of autonomous brake system** by developing the algorithm for **Value-added Functions** modeled to specific environmental constraints to accommodate customer requirements under critical braking situations
- **Piloted Cp-Estimation** function to extemporize the regenerative braking system by accommodating various braking scenarios. Introduced function towards the **applicability of Artificial Intelligence and Machine Learning** rendering an alternative environment to design and test components to channel in achieving better results. The project showcased promising future and was well appreciated in managerial discussions
- Independently worked with **five future release** topics, participating in all stages of software development including refining product vision, gathering requirements, software system design, coding, testing, documenting, release, and support to achieve ASPICE standard results
- Bosch Brake System Team representative for on-going **Navapravartana** project focused in active safety functionalities design, with project specific parameters on advancing **cross-division collaboration** in associations with **Jayem Automotives**, Coimbatore

Industrial Internship | Altair India Private Limited (December 2016 –May 2017)
Multiple Sample Analysis in Noise Vibration Harshness — Bengaluru, India

- Performed detailed analysis of vehicle chassis design after Computer-aided engineering post-processing using Hypergraph and Hyperview software. Used Hyperstudy to determine the optimal design variables thereby **reducing computation complexity by 96.6%**
- **Developed User and Application Programming Interface** to support Imbalance and Modal Participation features in Computer-aided engineering toolkit, using Tool Command Language programming and Tool Kit package. Modelled Driveline Imbalance to identify sensitive design parameters within a complete vehicle NVH model and examined individual samples to **improvise vehicle response** via simulation

SKILLS

Programming: C, C++, Matematica, Assembly Language, TCL, TK, MySQL | **Language:** English, Hindi, Kannada, German

Software: Autodesk Inventor, Hyperstudy, Hypergraph, Carmaker, ASCET, TestIDE, SharCC, Comsol, MATLAB, Microsoft Office, Visual Studio

Certified Courses	**ARAI:** Vehicle Dynamics, NVH Problem and Solutions, Powertrain Engineering, Combustion in Diesel Engines**;** **Kushal, RBEI Nxt**: Essentials in Artificial Intelligence**; Udemy:** Introduction to Advanced Driver Assistance System

PROJECTS

Optomechatronics: Automotive Exhaust Monitoring | Master's Degree Project | (Jun'17 - May'18)

- Simulated the design sample using **Comsol software to characterize gases** (namely Methane, Carbon Monoxide and Carbon Dioxide) collected from exhaust sourced from diverse engine configurations at the stipulated running condition in a Cylindrical Photoacoustic Cell
- Modeled application of varied acoustic resonators that could be subjected to the application of **Super Continuum Laser via Optical filter** and conducted a series of experiments with trace gas from various engine models (Petrol, Diesel and Biogas), to understand temperature and pressure distribution inside the **Photoacoustic cell at a particular resonant frequency**

PROFESSIONAL RESPONSIBILITIES AND ACHIEVEMENTS

- **RBEI:** Invention and Innovation topics in charge, organized events for critical problem solving, cost reduction and future transformation
- **Altair:** Handled Fun@Work works activities by coordinating and arranging office outings, team gatherings, team dinners and special day events
- Received **Spot-Award** for the **best overall performer** for the year 2019-2020, from the department of ESP (Active Safety Platform projects), RBEI
- Received **Talent Award** for **exceptional performance** in project contribution from the NVH team, Department of Altair Engineering, 2017
- Presented idea on "Designing optimal NVH solutions for Modern Vehicles" in **Tech Conference WissenKshetra 2.0**, organized by RBEI, 2017

EXTRA AND CO-CURRICULAR ACHIEVEMENTS

- Completed **100km cycling within 6 hours** organized by Cycling club at Pro-Bikers, Chennai, 2016
- Member of IIT Madras Cricket Team **placed 1st in IntraHostel Competition**, IIT Madras, 2016
- Actively participated in all Robotics competitions organized at IIT Madras and was also awarded **Best Technical Team member of the year** 2015
- **Ranked 2nd** among 70+ participants in **Semi-Autonomous Robotics** competition organized at Shaastra, IIT Madras, 2015
- **Chief Panel Member** at Discussion on topic: "Technological Assistance in Collusion with Social Intervention" conducted by NSS, 2013

*ARAI: Automotive Research Authority of India
*ATT: ASCET Test Tool
*TSDE: Texas Instrument Software Development Environment
*RBEI: Robert Bosch Engineering and Business India
*ASPICE: Automotive Software Performance Improvement and Capability dEtermination
*NSS: National Social Service