ARKA ROYCHOUDHURY

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EDUCATION

Alma Mater Studiorum - Università di Bologna Bologna, Italy *Nov 2024 - present*
PhD Student in Automotive for Intelligent Mobility

Research Topic: Advanced Digital Twins for the analysis and optimisation of the vehicle dynamics of agricultural tractors

Motorvehicle University of Emilia Romagna Modena, Italy *Sep 2021 - July 2024*
Master's Degree in Advanced Automotive Engineering Grade: 99 on 110
Specialization in High performance car design.

Kalinga Institute of Industrial Engineering Bhubaneswar, India *Jul 2014 - Jun 2018*
Bachelor's Degree in Mechanical Engineering Grade: 8.52 on 10

EXPERIENCE

Design Analysis Intern, CNH Industrial, Modena *Oct 2023- Apr 2024*

Plant model development of Rear Hitch in Simulink, System integration and Open-loop testing and calibration, development of control logic for position control.

Assistant Manager, Royal Enfield Motorcycles, Chennai *Aug 2018- Jun 2021*
Vehicle Testing team, Product Development(R&D)

- Alternate Source, VAVE and CKD development, Field failure Issue Analysis, On-Road durability for 2 major vehicle platforms. Coordination with different cross-functional teams across R&D, Product Strategy, Quality, Manufacturing and Field Service departments.
- Test planning, test data analysis and report preparation, documentation, preparation of standards, competitor Benchmarking, homologation support, spare parts management.
- Various vehicle level performance testing and vehicle ride-ability feedback.

PROJECTS

Development of Rear Wing, *More Modena Racing(UNIMORE)* *Oct 2021- Sep 2022*

Design and development of the Rear Wing of the Formula student vehicle for the 2022 season. The software used were XFLR5 and Star CCM+. Improved wing efficiency by 13% compared to 2021.

Bachelor Thesis, *KIIT, Bhubameswar* *Oct 2017- Mar 2018*

Title: Numerical Analysis of various aspects of Nanoscale Heat transfer using Non-Fourier frameworks.
An implicit finite difference method computational solver was developed using C++ to solve the Dual Phase Lag equation.

SKILLS

Programming Languages and Frameworks

- Advanced: MS Office, SIMULINK, Solidworks.
- Intermediate : Star CCM+, Ansys, C++, MATLAB, 3DEXPERIENCE.
- Beginner: Open Modelica, ADAMS, MSC Marc Mentat, Openleaf (LATEX).

LANGUAGES

- Professional or Native : English(C1 Certification), Bengali, Hindi.
- Beginner : German(A1 Certification), Italian, Tamil.

PUBLICATIONS

- Roychoudhury A, Martini A; *Development of a Multibody-Based Dynamic Model of the Rear Hitch Subsystem of an Agricultural Tractor*, **Advances in Italian Mechanism Science**, 2024. https://doi.org/10.1007/978-3-031-64553-2_3
- Mishra PC, Roychoudhury A, Banerjee A, Saha N, Das SR, Das A; *Coated Piston Ring Pack and Cylinder Liner Elastodynamics in Correlation to Piston Subsystem Elastohydrodynamic: Through FEA Modelling*, **MDPI: Lubricants, Vol 11, Issue 5**, 2023. https://doi.org/10.3390/lubricants11050192
- Roychoudhury A, Banerjee A, Mishra PC, Khoshnaw F; *An FEA material strength modelling of a coated engine piston*, **Materials Today: Proceedings, Vol 44, Part 1**, 2021. https://doi.org/10.1016/j.matpr.2020.11.387

EXTRA CURRICULAR

- Selected in the top 20 participants out of 1000 for **The World's Best Job**, a competition on Product Marketing, Strategy and Advertising conducted by Harley Davidson India.
- Volunteered as a Science and Mathematics teacher to underprivileged high school students at Ektara Foundation, Kolkata.