AMAAN ATTAR

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Mechanical Engineering student with a focus on Electric Drive Systems and Power Electronics, driven by a passion for sustainable mobility and cutting-edge technology. Skilled in electromagnetic simulations, FEM analysis, and power electronics design for electric vehicle systems. Demonstrated leadership in powertrain development for electric racecars and extensive hands-on experience with high-voltage battery systems and inverter electronics. Adept at problem-solving, technical analysis, and collaborative project execution to advance electric vehicle performance and innovation.

EXPERIENCE

Carissma - Project BALSAM, *Technische Hochschule Ingolstadt* | (Ingolstadt, Germany) Oct 2023 - Current

- Conducted electromagnetic simulations to enhance the design of battery systems and electrical drive components.
- Developed external casing and venting mechanisms for high-voltage battery systems (for BMW i4 G26), ensuring industry-standard EMC compliance for electric vehicles.
- Collaborated with cross-functional teams to enhance electromagnetic simulation methods for electric vehicles, ensuring compliance with industry standards.
- Assisted in the evaluation of electromagnetic compatibility (EMC) models to improve robustness and reliability.
- Collaborated on material research to improve the efficiency and safety of electric drive systems.

Schanzer Racing Electric, *Team Leader - Powertrain Department* | (Ingolstadt, Germany) Mar 2023 - Feb 2024

- Led the development and simulation of modular gearbox and powertrain systems for electric racecars (SRe24), using CATIA V5/V6, ensuring smooth integration with electric drive trains
- Conducted electromagnetic FEM calculations and mechanical simulations to address design challenges in electric drive systems.
- Managed project documentation and technical presentations, driving data-based decision-making for project success.
- Spearheaded the development of power electronic circuits for auxiliary drive components, optimizing for high efficiency.

Audi AG, *Holiday Job - Assembly and Quality Inspector* | (Ingolstadt, Germany) Aug 2023 - Sept 2023

- Conducted quality control checks on electric drive system components, ensuring compliance with safety and performance standards.

EDUCATION

THI, *M.Eng in International Automotive Engineering* | Ingolstadt, Germany GPA: 1.8 / 4.0 Mar 2025

University of Mumbai, *B.E in Mechanical Engineering* | Mumbai, India GPA: 1.2 / 4.0 Aug 2022

Courses: Automotive Electronics (Specialization) | Electric Vehicle Derive Systems | Engineering Design | Manufacturing Processes | Machine Design | Power Electronics | Finite Element Analysis (FEM) | GD&T

SKILLS

Softwares	Solidworks, Fusion360, CATIA V5/V6, AutoCAD, SiemensNX, Simulink, ANSYS (Mechanical and Fluent), Altair FEKO, ANSA, DOORS, EXAM, MS Office
Scripting	Python (PyTorch, TensorFlow, NumPy, Pandas, Scikit-learn, OpenCV), C/C#, Matlab, LaTeX
Soft Skills	Goal oriented, team player, commitment to excellence, systematic and independent working style, and proactive problem-solving abilities, strong communication skills, analytical thinking
Languages	English (C1), German (B1.1)

PUBLICATIONS

Workplace safety using Artificial Intelligence and Machine Learning IJERT
https://www.ijert.org/workplace-safety-using-ai-and-ml

PROJECTS

Experimental performance evaluation of V2X communication in Test field for Connected and Automated Driving - CARISSMA, Ingolstadt Oct 2023 - Jan 2024

- Designed and executed performance tests for V2X systems with a focus on electromagnetic interference in electric vehicles, ensuring compliance with safety protocols.
- Acquired comprehensive insights into the principles underlying test field (First Mile/ Erste Mile) design and configuration to ensure optimal performance and reliability
- Executed precise performance measurements for Car2X systems, utilizing advanced testing methodologies and tools
- Demonstrated proficiency in addressing various safety scenarios within the Car2X communication context, emphasizing a proactive approach to ensuring robust and secure communications