



Manjunatha Siddaramanna

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ABOUT ME

Results-oriented Renewable Energy Engineer with 11+ years of experience in aerospace, automotive, and sustainable energy, collaborating effectively within international teams. Specializes in product design and Project Management, leveraging expertise in HVAC system optimization, CFD, FEA, automation, and AI. Proven ability to lead cross-functional teams, navigate certifications, and deliver innovative, manufacturable solutions aligned with efficiency, safety, and sustainability objectives. Communicates effectively across diverse cultures and stakeholders.

Key Projects and Achievements:

- Development of oil free refrigerant compressor, testing and integration for air-water heat pump
- Optimize the compressor unit for low GWP Refrigerants R290 and R1234Ze
- Improve cycle efficiency with Regenerative cycles and enhanced Vapor injection
- Design and sizing of air-water HP for single family house in Europe as per ASHRAE standards
- Data center cooling optimization simulations with chiller yard cooling systems
- Heat exchanger optimization for solid oxide fuel cells in residential applications
- Thermal management of PCB electronics and inverters through CHT simulations
- Expertise in HVAC components like compressor, chiller, fan, heat exchangers
- Successful completion of projects with international and cross functional teams
- Received 2 times Shabash (Technical) and 1 time best managed project award in Bosch

WORK EXPERIENCE

04/01/2023 – CURRENT Mulfingen, Germany

SENIOR DEVELOPMENT ENGINEER EBM-PAPST MULFINGEN GMBH/QUESTAX SYSTEMS GMBH

- Spearheading the R&D of oil-free, refrigerant-cooled turbo compressors for air-to-water heat pump applications, aligned with EU decarbonization goals.
- Developed a refrigerant-cooled motor design achieving sustained operating temperatures below 140°C, improving thermal reliability and compressor life.
- Leveraged CFD and FEA simulations to optimize thermal flow and structural integrity, contributing to a 30% reduction in product development time.
- Executed full-scale testing and validation of compressor units, enhancing isentropic efficiency and long-term durability under varied ambient conditions.
- Enabled rapid design iterations and cycle tuning by integrating digital simulation workflows, reducing prototype dependency and accelerating certification prep.
- Coordinated cross-functional collaboration across design, simulation, testing, and production teams to deliver manufacturable, scalable solutions.

06/05/2022 – 12/01/2023 Ingolstadt, Germany

RESEARCH ASSISTANT INES- TECHNISCHE HOCHSCHULE INGOLSTADT

- Data preprocessing & Data analytics power consumption profile from pig fattening form
- Create a dashboard for farmers to get a complete energy consumption overview in the farm
- Develop NILM algorithm to detect equipment start and stop behaviour of device

01/03/2022 – 16/12/2022 Stuttgart, Germany

WORK STUDENT ROBERT BOSCH GMBH

- Enhanced burner geometry for hydrogen fuel cell system, achieving >99% flow uniformity, resulting in a 15% improvement in fuel efficiency.
- Utilized ANSYS ROCKY to model granular flow for powder filling in high-precision hotbox assemblies, improving packing consistency by 20%.

25/05/2015 – 30/09/2021 Bangalore, India

SENIOR SOFTWARE ENGINEER BOSCH GLOBAL SOFTWARE TECHNOLOGIES PRIVATE LIMITED (BGSW)

- Developed cooling concept for the electrical motor to increase the efficiency, filed for patent.
- Design and development of Heat Exchangers for max efficiency and least pressure drop.
- Core part of product development team for Injectors, Fuel cell hot box components and e-motors.
- Reduced temperature on sensors by 20C with new design of CLIMO(climate monitoring device).
- Developed simulation workflow for H2 combustion in a burner in ansys fluent.
- 25% reduction in process work flow time by automation for Injector multiphase simulations.
- Trained teams in Turkey and India on Hex Meshing and Multiphase simulations.
- Converted pilot project to 1.0 person full-time support in electrical motor thermal management.
- Successfully lead of 3 external colleagues, ensured quality and on time delivery.
- Bench marking of Ansys Fluent, Icepack , KULI and TAItherm for thermal simulations.

24/11/2014 – 22/05/2015 Bangalore, India

PROJECT FELLOW NATIONAL AEROSPACE LABORATORIES

- Design and development of small Gas Turbine combustor liner.
- Reverse Engineer the physical mode, 3D model preparation, thermal simulation.
- Test the liner in lab and validate the simulation results with experimental results.

02/07/2012 – 16/12/2013 Bangalore, India

PROJECT ASSISTANT INDIAN INSTITUTE OF SCIENCE (IISC)

- External aerodynamic simulations of fighter jet for all Mach number regimes and validation
- Improve the design for reduced drag reduction using vortex generators on fighter wings
- Develop drag reduction concepts for UAV vehicles with modifications in leading and trailing edges

SKILLS

ANSYS CFX, Fluent, Workbench, Static structural | MS office, Linux | Confluence | Python(Pandas Matplotlib Seaborn Pytorch Tensorflow) | Slack | JIRA | Notion

EDUCATION AND TRAINING

04/10/2021 – 16/03/2024 Ingolstadt, Germany

RENEWABLE ENERGY SYSTEMS Technische Hochschule Ingolstadt (THI)

- Developing renewable energy systems for residential, automotive and industrial applications
- Developed and optimized off grid project for tribal community using PV, wind and battery storage

07/11/2023 – 14/02/2024

EXECUTIVE COURSE ON PRODUCT MANAGEMENT Indian School of Business

- Structured approach for entire Product Life Cycle Management (PLM)
- Ideate, test, and launch products, new product development (NPD), pricing, A/B testing
- Competition analysis, Strategy, negotiation, product road mapping, prototyping and GTM strategies

MANAGEMENT AND LEADERSHIP SKILLS

Additional Certifications

- "Learn Python Masterclass" from udemy
- "PMP certification Training on Project Management" from Edureka
- "Become a Product Manager | Learn the skills & Get the job course" from Udemy
- "Advanced Communication skills for 21st century leaders" from Leadaprenuer Academy on udemy

LANGUAGE SKILLS

Other language(s): **ENGLISH (C1), GERMAN (A2)**

DRIVING LICENCE

Driving Licence: B

| 17/10/2022 – 16/10/2033