SREEKAR REDDY **SAJJALA**

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Publications

[1] https://doi.org/10.1080/21681163.2020.1858968

[2] https://doi.org/10.1016/j.jmapro.2019.07.033

Skills

C/ C++	Intermediate
Python	Advanced
MATLAB	Advanced
Siemens NX	Expert
ANSA	Intermediate
Ansys	Advanced
ABAQUS	Advanced
Optistruct	Expert
Star-CCM+	Advanced
OpenFOAM	Advanced

Languages

German	A2
English	C2

Work Experience

Internship, Master Thesis — **10/2023 - 07/2024**

Siemens Energy - Mülheim, Germany

Topic: Generative Design of a Premixing Passage for a Hydrogen Combustor.

- Mastered combustion simulation workflows using **Star-CCM+**, significantly enhancing process efficiency and automation with **JAVA**.
- Implemented **Generative AI** toolchain to H2 combustion gas turbines, minimizing boundary layer flashback and improving performance.

Student Research Assistant — **08/2021 - Present**

RWTH Aachen University

- Developed expertise in adjoint-based **topology optimization**, creating a workflow for passively coupled CHT cases in **OpenFOAM** and integrating **neural networks** to accelerate solver runtime.
- Optimized **MATLAB** program to generate Aerogel geometry, developed **C++** code for enhanced performance, and created **ABAQUS** input scripts for **FEM** simulation, improving efficiency and reliability.
- Optimized VBA program for examination software while developing a **Python** GUI using PyQt5 to enhance functionality and user experience.

Internship [Voluntary] — **02/2023 - 08/2023**

Volocopter HQ - Bruchsal, Germany

- Conducted **mechanical and thermal simulations** for CFRP parts and **battery packs** using Optistruct and StarCCM+.
- Analyzed and improved eigenfrequencies of battery packs through modal simulations.
- Investigated **thermal runaway** stresses and strains for various configurations, ensuring compliance with EU standards.

Mini Thesis — **05/2022 - 01/2023**

Digital Additive Production DAP - RWTH Aachen

- Developed a simulation-based **Neural Network** model for evaluating **Additively Manufactured** multi-purpose support structures, running CFD simulations on **OpenFOAM**.
- Significantly reduced development time by eliminating tedious case setups and simulation run times, providing substantial benefits to the development of cooling channels.

CAE Engineer — **03/2019 - 08/2020**

Upwork

- Worked on various industrial projects, specializing in design, simulation, and toolchain development.
- Successfully delivered results on time-sensitive projects through effective collaboration with clients.

Education

Master of Science: Computer Aided Mechanical Engineering — **2020 - Present**

RWTH Aachen University - Germany

Addl. Courses: Advanced Software Engineering, Parallel Computing, and AI.

Bachelor of Technology: Mechanical Engineering — **2015 - 2019**

BML Munjal University - India

Addl. Courses: Computational Fluid Dynamics, Robotics, and Bio-Mechanics.