

AMIR MOGHADDAM

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Professional Summary

Motivated Development and Simulation Engineer with master's degree and over 10 years of professional experience in automotive industry. Expert in CFD Simulations of entire vehicle models as well as Wind Tunnel Testing for aerodynamics, engine/e-motor cooling and thermal management. Actively involved in development and enhancement of BMW and Rolls-Royce products from Concept Phase through to Start of Production.

Skills

- Fluid Dynamics, Heat Transfer and Thermodynamics
- Automotive Engineering Skills
- Wind Tunnel Testing
- CFD Simulations from Mesh Generation to Post-processing (Star-CCM+, TAItherm, ANSA, Preonlab)
- Linux Environments
- Knowledge of CATIA V5
- Knowledge of Programming (Java, Python)
- Manufacturing Technology
- Problem Solving Skills
- Critical and Analytical Thinking Skills
- Verbal and Written Communication skills
- Flexibility

Work History

Simulation and Development Engineer

06/2019 to 03/2022

MAHLE Powertrain GmbH – Munich, Germany

In this role, I:

- Carried out CFD Simulations of entire car models (G60 and G70) for BMW Group with regard to engine and e-motor cooling from geometry preparation through to Post-processing (Tool: Star-CCM+)
- Evaluated and optimized cooling performance of heat exchangers (Cooling Modules) in close collaboration with design groups
- Evaluated leakages and optimized air flow for better cooling performance
- Supervised development processes from beginning to Start of Production
- Attended technical meetings and presented results
- Was actively involved in Method Development and Workflow Optimization

Aerodynamics Engineer

10/2015 to 06/2019

Bertrandt Ingenieurbüro GmbH – Munich, Germany

In this position, I:

- Was responsible for Development and enhancement of aerodynamic features of Rolls Royce and BMW X models

- Evaluated and improved Drag and Lift Coefficients (C_x , C_{z1} and C_{z2}) by performing Wind Tunnel Tests
- Evaluated and optimized Engine, E-motor and Brake Cooling using CFD simulations (Tools: Star-CCM+, ANSA and CATIA V5)
- Supervised entire development processes from first Clay Model creation through to Start of Production
- Was actively involved in special topics, such as WLTP, Water Management and CO Tests
- Attended technical meetings and collaborated closely with Design and other BMW departments, such as Engine Development, Driving Stability and Thermal Management
- Was actively involved in Method Development and Workflow Optimization
- Trained new team members
- Was promoted to Lead Engineer during last six months of activity

CFD Simulation Engineer - Thermal Management

04/2011 to 10/2015

CFD Schuck Ingenieurgesellschaft MbH – Munich, Germany

In this role, I:

- Performed CFD/Thermal simulations for department of Thermal Management at BMW Group (Tools: Star-CCM+, TAItherm and ANSA)
- Calculated and predicted temperatures of vehicle components
- Developed improvement concepts in order to prevent critical parts from overheating
- Attended technical meetings and presented results

Education

Master of Science: Energy System Technology

03/2010

Clausthal University of Technology - Clausthal-Zellerfeld, Germany

Thesis topic: Design of a Spiral Casing for a Centrifugal Water Pump and analysis of the flow using CFD Simulations (Tools: ICEM and ANSYS CFX)

Bachelor of Science: Industrial Engineering

02/2002

Azad University of Technology Tehran-South - Tehran, Iran

Education focus: Production Technology and Manufacturing Engineering