Curriculum Vitae

RISHIK KUDUVA

Auf dem Bännjerrück 56, 67663 Kaiserslautern
Germany

Contact: +49 159 0138 9550
E-Mail: kuduvarishik@gmail.com

LinkedIn | Xing

Nationality/Residence: Indian/Permanent resident in Germany
Driver's license: European category 'B'

Experience and Education

May '23 – current (1 year 2 months)

Thermal Simulation Project Lead, Automotive Cells Company Deutschland GmbH, Kaiserslautern, Germany

- Digital Product Twin development - 3D CFD-CHT thermal model development in STAR-CCM+ to evaluate electro thermal battery performance with cooling and venting gas thermal runaway/propagation
- Project lead to coordinate/plan thermal simulation matrix with customer, tests, suppliers
- Drive product/process development with optimization studies
- Data post treatment from tests to applicability into models

Nov '17 – Apr '23 (5 years 6 months)

CFD/FEA Simulation Engineer, Federal Mogul Ignition GmbH, Tenneco, Burscheid, Germany

- Design and 3D CFD and thermomechanical modelling of pre chamber and conventional spark plugs with ANSYS
- Drive product development of pre chamber spark plugs for DI gasoline engines and commercial gas engines using flow/combustion CFD analyses with ANSYS
- Design of Experiments with parameterization and design exploration using ANSYS Workbench tool (DFSS)

Mar '15 – Aug '17

Masters of Science – M.Sc. International Automotive Engineering in Aachen University of Applied Sciences (FH), Germany

Specialization: Combustion simulations - Computational Fluid Dynamics (CFD) – IC engines, Finite Element Modelling and Simulations (FEM), Design (CAD)

Projects:

- CFD (course project) – Comparison of mesh types 'Polyhedral' and 'Trimmed' for Ahmed body model under the conditions of wind tunnel (aerodynamics) using **Star CCM+**
- Control Technology (course project) – Modelling of ABS (Antilock Braking system) with PID controller in Matlab/Simulink

Nov '16 – May '17

Master Thesis: "*Numerical Investigation and Optimization of a SI Combustion System for DI CNG Applications*" **at Ford Motor Company, Cologne, Germany**

- Investigation of various injection strategies, piston geometry and turbulence characteristics using 3D CFD simulations in **CONVERGE**
- Performed were combustion simulation and parametric optimization and statistical analysis using DOEs in modeFRONTIER to identify improved mixing, combustion and eventually performance for the new boosted engine with Compressed Natural Gas

Software Tools: CONVERGE CFD, modeFRONTIER, Linux OS (HPC-High Performance Computing), EnSight, Origin Plots

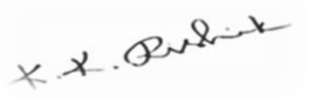
Sep ‘16 – Nov ‘16	**Internship:** Gasoline Engine Development – CAE – in cylinder 3D-CFD **at Ford Motor Company, Cologne, Germany** **Tasks:** • Fuel optimization for surrogate components of gasoline to achieve an equivalent property of gasoline with RON95 • 3D-CFD Simulations of example gasoline engines under **CONVERGE** and integration of **CONVERGE** within modeFRONTIER for parametric optimization of 3D CFD problems
Aug ‘10 – Apr ‘14	**Bachelors of Engineering - B.E. Mechanical Engineering at College of Engineering Guindy, Anna University, Chennai, India** Result (CGPA): 8.45/10.0 **Summer internship**: Finite Element Modelling (FEM) und Simulation of Temperature distribution (transient, thermo-mechanical) using ANSYS – Institute of Flight Propulsion and Turbo machinery (IFAS), Technical University of Braunschweig, Germany **Task:** Method development and investigation of temperature distribution on a rotor surface under the influence of frictional contact of brush seals used in turbo machines at the test rig with ANSYS **Projects:** • Design and Fabrication – Semi-automatic gear shift mechanism with pneumatic actuators and directional control valves – Application of pneumatic system with programmable logic controller (PLC) to simplify and control gearshift in vehicles

Software Skills

CFD-Tool	• **STAR CCM+:** Good • **Converge:** Good • **AVL FIRE, ANSYS FORTE, FLUENT, CFD Post:** Expert
FEM-Tool	• **ANSYS Mechanical**: Expert
Statistical Analysis and Parameter Optimization	• **modeFRONTIER:** Good • **ANSYS WB DoE:** Expert
CAD-Modelling	• **SpaceClaim:** Expert
Project Management	• **Primavera:** Basic
Programming und Modelling	• **Matlab/Simulink:** Basic • **C/C++/Excel VBA:** Basic

Languages

Deutsch (German)	• Business fluent
English	• Business fluent
Sourashtra	• Mother Tongue
Tamil	• Business fluent



Rishik Babu Kuduva Rajendra Selvam