SHIVAM ARORA

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EDUCATION

RWTH Aachen University, Germany *2013-2015*
Msc. Simulation Sciences
Current GPA: 2.0 (best being 1.0)

NMAM Institute Of Technology - V.T.U University, India *2009-2013*
B.E Mechanical Engineering
Overall GPA: 8.69 (best being 10)

TECHNICAL STRENGTHS

Computer Languages	C, Fortran, Matlab, Python, VBA, HTML, Css
CAD Softwares	CatiaV5, SolidWorks, ProE
CAE Softwares	OpenFoam, Ansys, HyperMesh
Office Tools	MS Office,Latex
Visualization Softwares	Paraview
General Computing	Linux, Subversion, Git

WORK EXPERIENCE AND PROJECTS

Institute for Kraftfahrzeuge(IKA), RWTH Aachen University *2015 - 2016*

- Testing and analyzing tyre samples for **Apollo Tyres** in Ivalo, Finland and Enschede, Netherlands.
- Automation of various processes for post-processing data collected from various test benches, using Matlab.
- Algorithm development for an automated execution of a sensitivity analysis for a physical tyre model in Matlab (**Master Thesis**).
- Design of various tyre models using Catia V5.
- Application development to handle and generate various **.tir** & **.ftf** files for further use in various simulations using Matlab.

German Research School For Simulation Sciences, RWTH Aachen University *2013-2015*

- Simulation of a multiphysics and multifield Fluid Structure Interaction problem using OpenFoam.
- Molecular Dynamics Simulation of Argon Gas in Fortran77.
- Development of a computer program to analyze One-Dimensional Poisson Equation using Ritz-Galerkin Finite Element Method using C.
- Analyzing One-Dimensional Convection-Diffusion Equation using Streamline-Diffusion Method using C.
- Simulation of a 'Shock Tube' phenomenon using Finite Volume Method using C.
- Development of a computer program to solve the One-Dimensional Heat Equation using Crank-Nicolson Method using C.
- Implementation of the Lattice Boltzmann method for a 2-d flow in Fortran90.

- Development of a Multigrid iterative solver to solve the Poisson's Equation using a Finite Difference approach using C.
- Implementation of the GMRES and Conjugate-Gradient method to solve a system of linear equations using C.

NMAM Institute Of Technology & ISRO *2012-2013*
Design and modal analysis of twin satellites along with optimization of payload placement for even mass distribution. (**Bachelor Thesis**)

ElectroSteel Casting Limited *2011*
Underwent a 3 weeks training at ElectroSteel Casting Limited in the field of design and in the production department during July 2011.

CONFERENCES, PUBLICATIONS AND SEMINARS

Co-author of **Design and Development of Structural sub-system for twin Nano-Satellite**, paper presented in 64th International Aeronautical Congress, Beijing, China.

Gave a seminar on the implementation of an air powered motorcycle, based on a published paper.

SUBJECTS TAKEN

Fluid Structure Interaction
Iso-Geometric Analysis
Numerical Methods For PDE's
Computational Fluid Dynamics
Parallel Computing For Computational Mechanics
Molecular To Continuum Physics
Data Analysis & Visualization
Model Based Estimation
Finite Element In fluids
Lattice Boltzmann Methods
Parallel Programming
Applied Super-Computing
Fast Iterative Solvers
Applied Quantum Mechanics
Practical Introduction To Finite Element Software

REFERENCES

- **Dirk Henrichmoller Dipl.-Ing:** Senior Engineer Reifensimulation at **Forschungsgesellschaft Kraftfahrwesen mbH Aachen(FKA)**. **Email** - dirkh@fka.de.