R Varun Raj

Curriculum Vitae

Personal Details

Birth Details	17 th July 1987,New Delhi,India
Nationality	Indian
Marital Status	Unmarried

Education

Jul 2016 Present	**Ph.D candidate**, *TU Eindhoven*. ○ A computational Micromechanical study to understand penetration mechanics of UHMWPE reinforced composites under ballistic loading
Sep 2012 Dec 2015	**MSc. Simulation Science**, *RWTH Aachen University*, Grade - 1.3(Scale: 1.0(Best)-6.0(Worst)). ○ *Master Thesis (Institute for Applied Mechanics,RWTH Aachen University)* : Multiscale material modelling for Finite Element Analysis of textile reinforced composites for structual reinforcement of tissue engineered heart valves(TEHV) ○ *Relevant Subjects:* Finite Element Technlogy,Parallel Programming,High Performance Matrix Computation,Parallel Computing in Computational Mechanics ○ RWTH Educational Fund Scholarship for the academic year 2013/2014
Aug 2005 Jul 2009	**Bachelors of Engineering,Manufacturing Processes and Automation)**, *NSIT,University of Delhi*, *Grade - 74.52% ;German Equivalent 2.2*. ○ *Bachelor Project Title:* Comparative analysis for performance evaluation of a Powder Metallurgy and a Conventional Electrode in Electric Discharge Machining using Design of Experiments & Single cum Multi-Objective Optimization(Genetic Algorithm)

Experience

Research Assistant

May 2013 Present	**Institute of Applied Mechanics**, RWTH Aachen University. Computational modelling and analysis of composite materials ○ Abaqus Python Scripting for parametric mechanical modelling and mesh generation ○ User defined element models in Fortran for FE Analysis in Abaqus
Apr 2014 Present	**MathCCES**, RWTH Aachen University. ○ C++ code development of an image reconstruction algorithm for a compact Neutron Imaging System ○ Development of GUI and eventual packing of the application in Matlab

Scientist - B

Dec 2009 Apr 2010	**Defence Institute of Advanced Technology**, *Pune*, Ministry of Defence. ○ Academic training in military technologies with specialization in Aeronautics. ○ Designed a portable,camera-laden and step climbing robot for hostile object detection
Apr 2010 Aug 2012	**Gas Turbine Research Establishment**, *Bangalore*, Defence Research and Development Organization. ○ Technical management of Prototype Fabrication Shop for military aircraft engines ○ Manufacturing Process Development and fixture design for long cycle components ○ Commissioning and Installation of CNC machines.

Internship

Jun 2008 Aug 2008	**National Automotive Testing and Research Infrastructure Project**, *New Delhi*. ○ Simulations for studying and quantifying the effect of road related parameters on the tripped rollover stability of a sports utility vehicle

Projects

2D FE Solver	Developed parallelized C++ FE solver for FEM based heat diffusion simulation
Mini Baja	Design and Simulation of Suspension and Wheel Assembly system for an ATV.

Computer skills

CAD/CAE	CATIA,Abaqus STANDARD & CFD,Python Scripting for Abaqus
Automotive	Carsim,Lotus Suspension Analyser
Programming	Python,C,C++,Fortran,Matlab,MPI,OpenMP
OS	Linux, Microsoft Windows
Miscellaneous	LATEX, Processing,JMP(Design of Experiments)

Languages

Proficient	**English,Hindi**	*Conversational and Written Fluent*
Basic	**Deutsch**	*uptill A2*
Mother Tongue	**Tamil**	

Interests

- ○ Trekking
- ○ Playing Cricket
- ○ Cycling