Arvind N **10301002**
Aerospace Engineering **M.Tech.**
Indian Institute of Technology, Bombay **Male**
Specialization: AERODYNAMICS **DOB: 16-05-1987**

Examination	University	Institute	Year	CPI / %
Post Graduation	IIT Bombay	IIT Bombay	2012	9.55
Undergraduate Specialization: AERONAUTICAL ENGINEERING				
Graduation	Anna University	Hindustan College of Engineering	2009	89.00

OBJECTIVE

To obtain a position that will enable me to use my strong organizational skills, educational background and ability to work well with people

PROFESSIONAL EXPERIENCE

- **Research Assistant at Joint Advanced Technology Programme (JATP), Indian Institute of Science, Bangalore** [June 2009 to July 2010]
  - Worked on a sponsored project from the commercial Aircraft producer **BOMBARDIER, CANADA**
  - Work involved both experimental and computational analysis of a complete 3D Aircraft model. The computational work included modeling in CATIA and CFD simulations using ANSYS software packages, ICEM CFD and CFX
  - Experimental work involved wind tunnel testing of a prototype model in the Low speed subsonic wind tunnel at IISc

PUBLICATIONS

- **Conference Papers**
  - **Arvind N** and Kulkarni P S, "*Vortex Generators of different shapes and their application to flow control over Aircraft wings – A CFD study*," Proceedings of the 12th AeSI CFD conference, August 11-12, 2010 Bangalore, India
  - Rohith S, **Arvind N** and Kulkarni P S, "*Performance Analysis of winglets on a MAV plan form*," Proceedings of the 12th AeSI CFD conference, August 11-12,2010, Bangalore
  - **Arvind N** and Kulkarni P S , "*Numerical Investigation of wave Drag reduction by single and multiple counter flow jets in hypersonic blunt body flow field*," Proceedings of the International conference on Theoretical, Applied ,Computational and Experimental Mechanics(ICTACEM), December 27-29,2010, IIT Kharagpur, India
- **Journal Papers**
  - **Arvind N** and Kulkarni P S, "*Numerical Investigation of wave Drag reduction by single and multiple counter flow jets in hypersonic blunt body flow field*," **submitted to the International Journal of Shock waves**

KEY RESEARCH PROJECTS

- **Title: Multidimensional Riemann Solvers for Euler Equations** [June 2011 – current]
  - **M Tech thesis** guided by Prof J C Mandal
  - Aim of the project is to build a truly multidimensional solver that could numerically simulate the flow fields of steady, compressible and inviscid fluid flow problems
  - Project involves formulating a multidimensional Riemann solver with particular attention paid to detailing the two dimensional HLLE Riemann solver
  - The main application of the work includes studying flow fields of Euler and magneto hydrodynamic flows

- Numerical Algorithms will be developed in C++ and after validation of the results; the solver shall be integrated in the Open FOAM library

- **Title: Drag Reduction Analysis on Aerospace vehicles** [Jan 2009 – May 2009]
  - **B Tech project** guided by Prof P S Kulkarni, Senior Research Scientist, IISc, Bangalore
  - The objective of this project was to analyze the drag produced by aerodynamic bodies at high Mach numbers and implementing an effective way to reduce it
  - The analysis was carried out on a blunt nosed re-entry vehicle where retractable spikes of various configurations were modeled and its effects on drag reduction were studied

MINI/COURSE PROJECTS

- **Title: Active Flow Control Techniques on Bluff Bodies** [July 2010 – Nov 2010]
  - Project involved numerical simulation of two active flow control techniques namely blowing and counter flow injection applied to bluff bodies and effects on drag reduction were studied
- **Title: Detailed Design of 3rd stage of GE404 Engine** [Jan 2011 – June 2011]
  - The 3rd stage of the low pressure compressor and turbine of GE 404 was designed in a group of four

SEMINAR

- **Title: Moving Mesh Methods for CFD** [July 2010 – Nov 2010]
  - The work reviews advantages and limitations of moving mesh methods, a sub-class of Adaptive meshing technique, in the context of Computational Fluid dynamics

AWARDS AND RECOGNITIONS

ACADEMIC

- **GOLD MEDALIST** in Anna University B Tech graduating Batch of 2009
- Best student award in 12th Grade

TECHNICAL

- Technical Paper selected for **SATYAM YOUNG ENGINEER AWARD** ,2010
- Received **1st place** in Technical paper presentation conducted by **SAE INDIA** in August 2008
- Received **2nd place** in **National Level Analysis Contest** conducted by **SAE INDIA** in September 2008

SPORTS

- Represented Aerospace Department in the PG Sports for chess, carom and Table Tennis in 2011
- **SILVER MEDALIST** in PG sports Chess tournament, 2011
- Finished 6th in a district level chess tournament which gave me an opportunity to represent my State in **National Level Chess tournaments** in the year 2003

COMPUTER SKILLS

- **Programming Languages**: C/C++, FORTRAN
- **CAE and CAD Tools:** ICEM CFD, ANSYS CFX, CATIA V5-R16, PRO-E, OpenFOAM
- **Operating System:** Windows, Linux (Ubuntu)
- **Application Software's:** MATLAB, Latex, MS Office, Open office

POSITIONS OF RESPONSIBILITY

- Active member of the Institute wide **STUDENT COMPANION PROGRAM (SCP)** for post graduate students
- **CAPTAIN**, Chess Team, Department of Aerospace Engineering, IIT B