
Varun Hiremath

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OBJECTIVE

To pursue graduate studies in the field of Aeronautics and Astronautics and actively participate in contributing to the cutting edge research as a technology innovator.

AREAS OF INTEREST

Computational Fluid Dynamics and Computational Combustion.

EDUCATION

India Institute of Technology Madras

August 2003-Present

Dual Degree B.Tech + M.Tech in Aerospace Engineering

- Aggregate CGPA: 9.23/10 at the end of 8th semester
- Major CGPA: 9.43/10 at the end of 8th semester
- Minor (Theoretical Computer Science) CGPA: 10/10

ACADEMIC ACHIEVEMENTS

12th Standard, CBSE

March 2003

- Secured 100% marks in Mathematics CBSE Senior School Examination and received certificate of merit for being in the top 0.1% of successful candidates.

IIT Madras

April 2006 - present

- Received certificates of academic distinction for securing the highest CGPA in the III & IV semesters (2004-05), and V & VI semesters (2005-06) academic years in Aerospace Engineering Department, and will be receiving the same for VII & VIII semesters (2006-07).
- Currently the branch topper in both Dual and B.Tech degree.

RESEARCH

Premixed Flame Modelling

July 2006 - present

- As part of my master's project I am working on "Oscillatory Response of fixed/free anchor Laminar Premixed Flames with Constant/Non-Constant Flame Speed". Most of the existing premixed flame models assume, contrary to experimental observations, that the flame is anchor fixed and the flame speed is constant. My work involves development of a model for oscillatory response of anchor free premixed flames with variable flame speed which tries to relax these assumptions.

PUBLICATIONS

45th AIAA Aerospace Sciences Meeting and Exhibit.

January 2007

Reno, Nevada, USA.

- Shreekrishna, Varun Hiremath, S. R. Chakravarthy, "Oscillatory Response of Free-anchor Laminar Premixed Flames with Non-Constant Flame Speed"

INTERNSHIPS

Aerospace Division, HAL Bangalore

May 2005 - July 2005

Summer Internship

- Work involved the study of aerodynamics behind long range missiles for accurate range predictions of missiles fired from a fighter aircraft.

Flosolver Division, NAL Bangalore

May 2006 - July 2006

Industrial Training

- Worked on estimation and comparison of vertical component of velocity of wind in the earth's atmosphere. Estimation of vertical velocity of wind is very critical for monsoon prediction as it alters the moisture pick up in the atmosphere.

ACADEMIC PROJECTS

Impedance Tube

Jan 2007 - July 2007

Acoustic Instabilities

- Developed a software to find impedance of a substance using the impedance tube technique. The software is being currently used in the Flow Diagnostic Lab for impedance estimations.

POSITION OF RESPONSIBILITY

Teaching Assistant

July 2007 - Nov 2007

- Employed as the Teaching Assistant for Propulsion laboratory for undergraduate students in the Aerospace Engineering department.

Representative

July 2007 - April 2008

- Class representative for the final year Dual degree students

EXPERIENCE

Debian Project (<http://www.debian.org>)

August 2006-present

Debian Maintainer

- Working with the Debian Project, a worldwide volunteer organization dedicated to producing a high-quality, free, Linux-based operating system.
- Currently maintaining more than 100 packages in Debian, have provided patches to fix bugs and contributed to many projects.

Opensource Projects

Contributions

- Author of python-gastables, krickscore and pidgin-festival opensource projects.
- Contributing to Jajuk (Advanced Jukebox) project.

EXTRA CURRICULAR ACTIVITIES

Shaastra

- Co-ordinator of Free and Open Source Software (FOSS) Workshop at Shaastra 2007.
- Winner of **The Ultimate Engineer** event in Shaastra 2007. This event is open to all engineering students and consists of 3 to 4 rounds in which the participants are tested in both theoretical and practical aspects of engineering.
- Finalist in Simulation Championship and Math Modelling events at Shaastra.

COURSES

Professional Major

- Fluid Mechanics, Introduction to CFD, Gas Dynamics, Aerodynamics, Flight Dynamics I & II, Hypersonic Flow Theory, Computational Aerodynamics
- Basic Strength of Materials, Structures, Vibrations, Experimental Stress Analysis, Continuum Mechanics, Aerospace Materials & Manufacturing
- Propulsion I & II, Combustion in Aerospace Propulsion, Introduction to Space Technology, Transport Process in Reacting Flows
- Object Oriented Programming

Minor - Theoretical Computer Science

- Computability, Formal Language & Automata, Elements of Logic, Graph Theory

Mathematics

- Complex Variables and Transform Techniques, Special Functions & Partial Diff. Equations, Linear Algebra & Numerical Analysis

SKILLS

Languages

- C, C++, Python, L^AT_EX, HTML

Packages/Tools

- Matlab, Mathematica, Gnuplot, Subversion (SVN), Git

Operating Systems

- Linux (Debian, Fedora, RedHat, Ubuntu, Gentoo)
- Windows