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# Varun Hiremath

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e-mail: <vh63@cornell.edu>

<http://eccentric.mae.cornell.edu/~vh63/>

## EDUCATION

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### Cornell University, Ithaca, USA

*August 2008 - Present*

Ph.D in Aerospace Engineering

- Advisor: Prof. Stephen B. Pope
- GPA: 4.3/4.0 (end of 2nd sem)

### Indian Institute of Technology (IIT) Madras, India

*August 2003 - May 2008*

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

- Aggregate CGPA: 9.32/10
- Major CGPA: 9.52/10
- Minor (Theoretical Computer Science) CGPA: 10/10

## ACADEMIC ACHIEVEMENTS

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### Cornell University

*August 2008*

- Received Graduate School Fellowship from the Sibley School of Mechanical and Aerospace Engineering, Cornell University.

### IIT Madras

*April 2006*

- Received certificates of academic distinction for securing the highest CGPA in Aerospace Engineering Department.

## RESEARCH

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### Dimension Reduction of Combustion Chemistry

*August 2008 - Present*

Graduate, Cornell University

- My current research work involves study of dimension reduction methods for efficient implementation of combustion chemistry. I am working on developing a new in situ adaptive tabulation (ISAT) algorithm which integrates the RCCE and ICE-PIC dimension reduction methods.

### Premixed Flame Modelling

*July 2006 - May 2008*

Undergraduate, IIT Madras

- As part of my master's project I worked on "Oscillatory Response of fixed/free anchor Laminar Premixed Flames with Constant/Non-Constant Flame Speed". My work involved development of a model for oscillatory response of anchor free premixed flames with variable flame speed.

## PUBLICATIONS

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### 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"

### Second International Workshop on: Model Reduction in Reacting Flows,

*March 30-April 1, 2009*

University of Notre Dame, Indiana, USA.

- S.B. Pope, Z. Ren, V. Hiremath, "Dimension Reduction and Tabulation of Combustion Chemistry using ICE-PIC and ISAT"

### 6th US National Combustion Meeting, Ann Arbor, Michigan.

*May 17-20, 2009*

- Z. Ren, V. Hiremath and S.B. Pope, "Dimension Reduction and Tabulation of Combustion Chemistry using ICE-PIC and ISAT"

## OTHER ACTIVITIES

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

*August 2006-present*

Debian Developer: <http://qa.debian.org/developer.php?login=Varun+Hiremath>

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

## **OPENSOURCE PROJECTS**

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### **python-gastables**

*March 2007-present*

<https://sourceforge.net/projects/gastables>

- Author of python-gastables: a collection of python modules for compressible gas flow calculations. It includes modules for Isentropic Relations, Normal Shock Relations, Oblique Shock Relations, Fanno Flow, Isothermal Flow, Rayleigh Flow and Prandtl Meyer Functions.

### **Contributions**

- One of the core developers of jajuk opensource projects.
- Contributed and provided patches to pidgin-festival, pdfedit and mayavi2 projects.

## **SKILLS**

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### **Languages**

- C, C++, Fortran, Python, L<sup>A</sup>T<sub>E</sub>X, HTML

### **Packages/Tools**

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

### **Operating Systems**

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