Jatinder Pal Singh Sandhu

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EDUCATION:

IIT Madras, Chennai — Direct *Ph.D.*

July 2015 - PRESENT

Pursuing my doctorate in the field of computational fluid dynamics **(CFD)** under the guidance of Dr. Santanu Ghosh in the Department of Aerospace Engineering.
Major subjects: CFD, Gas dynamics, computational aerodynamics and Turbulence modeling.

NIT Kurukshetra, Kurukshetra — *B.Tech*

July 2011 - June 2015

Received my B.Tech degree in field of Mechanical Engineering with CGPA of 9.650 out of 10.0.

PROJECTS:

Development and verification of FEST3D solver - *Ph.D.*

July 2015 - PRESENT, **Current project**

I am developing a software, entitled FEST3D, solves 3-dimensional Navier-Stokes equation, using FORTRAN 90 computer language. Aim of current project is to obtain fast and more accurate simulation results [3].

Evaluation of Ramp-type Vortex Generators

June 2014 - July 2016, **past project**

Study of different configurations of the wedge shaped vortex generator to control the fluid flow separation. Separation of fluid flow may damage surfaces of a machine and reduce its work efficiency. For example, separation creates an oscillation in a compressor which reduce its efficiency and even damage its blades [1-2].

Experience

IIT Madras, Chennai — Research Assistant

July 2015 - PRESENT

As Ph.D. student, I am Half-Time Research Assistant (HTRA) to my Ph.D. advisor.

SKILLS

- FORTRAN 90, PYTHON
- Finite volume method (CFD)

Research Interest

- **Transition modeling**
- **LES/RANS hybrid simulation.**
- **Application of RANS modeling.**

LANGUAGES

English, Hindi and Punjabi

PUBLICATIONS:

[1] Sandhu, Jatinder Pal Singh, Shashank Subramanian, Santanu Ghosh, and Pushpender Sharma. "*Evaluation of Some Wedge-shaped Vortex Generators Using Swirl Center Tracking.*" *8th AIAA Flow Control Conference*, AIAA 2016-4086, 2016.

[2] Sandhu, Jatinder Pal Singh, Shashank Subramanian, Santanu Ghosh, and Pushpender Sharma. "*Evaluation of Ramp-type Vortex Generators Using Swirl Center Tracking.*" *AIAA Journal*, Manuscript ID 2017-10-J05679, under review.

[3] Sandhuu, Anant Girdhar, Rakesh Ramakrishnan, R.D. Teja, Santanu Ghosh. A convergence study of solutions using two two-equation RANS turbulence models on a finite volume solver for structured grids, *AIAA 2018-3859*, 2018.