ARJIT SETH

Personal Information
Date of Birth: 23 June 1995
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Education	**B.Tech.** Aeronautical Engineering with Minor in Aerodynamics	2014-present
	Manipal Institute of Technology	
	Year 3, Semester 6, Cumulative GPA: 7.41/10	
	12th International Baccalaureate: Diploma Programme (IBDP), Switzerland	2013
	Symbiosis International School, Pune. Results: 37/45 (Percentile: 88.02%)	
	10th International General Certificate of Secondary Education (IGCSE), Cambridge	2011
	Symbiosis International School, Pune. Percentage: 88% (Distinction Awarded)	

Summary

- Capable of performing accurate computational fluid analyses using ANSYS ICEM CFD, Workbench, Fluent and OpenFOAM.
- Capable of creating high-quality 3D CAD models in Dassault Systémes' CATIA.
- Able to develop efficient mathematical models for systems and perform complex mathematical/numerical analyses using MATLAB and Python.

Skill Set

Aircraft Design, Aerodynamics and Computational Analysis, Optimization and Mathematical Modelling, Problem Solving

Software Expertise

Technical: ANSYS, CATIA, SolidWorks, MATLAB, XFLR5,
Programming Languages: Python, C++, Lua, Bash

Graphics, Audio and Others:
LaTeX, Logic Pro, Cubase, GNU Image Manipulation Program,
Sony Vegas Pro, Photoshop, Hugo and Plot.ly

Areas of Interest

Aerospace Engineering - Aerodynamics, Computational Fluid Dynamics, Aircraft Design, Stability and Control Systems, Avionics, Propulsion Systems

Physics - Quantum Field Theory, General Relativity, Quantum Mechanics

Technical Activities

Head of Aircraft Design, Centre for Avionics: Manipal University   Summer 2016-present

Responsible for technical design of Micro Air Vehicles (MAVs) to match specific and complex requirements for government-funded projects. Responsible for:

- Designing a high endurance radio-controlled quadcopter-airplane hybrid aircraft for vertical flight (VTOL) and forward flight.
- Developing code to retrieve aircraft performance characteristics from automated radio-controlled flights.
- CAD, computational fluid dynamics and structural analyses for prototyping.

Head of Aerodynamics, AeroMIT: Aeromodelling Team   Spring 2016 - Spring 2017

Responsible for leading and managing the functions and resources of the Aerodynamics Subsystem to conceptualize and design miniature Unmanned Aerial Vehicles (UAVs) with analyses of aerodynamics and flight dynamics, alongside preparation of technical reports and presentations.

Website: http://www.aeromit.in/

Achievements (AeroMIT)	<u>SAE Aero Design (Micro Class), sponsored by Lockheed Martin:</u>

The aim of the international competition, which takes place in the USA, is to develop a small, radio-controlled aircraft with a high payload fraction that fits into a cylinder of 6 inches in diameter. Scoring is based on the payload fraction, the cylinder length and aircraft endurance.

Responsibilities for the SAE Aero Design competition:

- Aircraft Design: Dimensioning and configuration.
- Determining aircraft performance parameters such as payload carrying capacity.
- Computational fluid dynamics analyses on high-lift airfoils/wings.
- Optimising flight dynamics and stability.
- Developing mathematical models for structural analyses.
- Preparing a technical design report on the aircraft.

SAE Aero Design West 2017, Texas Results:

- Awarded Overall World Rank 4 in the Micro Class.
- World Rank 1 awarded for Highest Payload Lifted.
- World Rank 2 awarded for Highest Payload Fraction.
- Awarded the NASA Systems Engineering Award.

SAE Aero Design East 2016, Texas Results:

- Awarded Overall World Rank 5 in the Micro Class.
- World Rank 3 awarded in Highest Payload Lifted.
- World Rank 4 in Highest Payload Fraction.
- World Rank 5 in Design Report.

<u>TATA Protean UAV Challenge 2016-17:</u> This national competition's aim is to develop a multi-rotor drone that is able to switch between configurations (quad, hex and octo) while midair with stability. Awarded **1st position**. Responsibilities:
- Developed the mathematical model to ensure stability between configurations.
- Performed computational structural analyses to ensure rigidity and minimise vibrations.

<u>Computational Fluid Dynamics:</u> Personal research into CFD techniques with various applications.
- Developed a new blocking technique to generate high-quality 3D C-Grid meshes around wings in ANSYS ICEM CFD:
  `http://godot-bloggy.me/post/o-grid-c-grid-comparison/`
- Performed flow analyses over various airfoils, and wings with aerodynamic devices such as winglets and flaps using ANSYS ICEM CFD, ANSYS Mesh and Fluent.

Extracurricular Technical Activities	**Workshop Conductor, IE Aerospace**: XFLR5 and Aerodynamics Workshop	Spring 2016

- Demonstrated the use of XFLR5 in elementary aerodynamic analyses such as Airfoil and Wing Design to first-year engineering students.
- Taught introductory aerodynamics to first-year engineering students and introduced computational fluid dynamics as a tool for aerodynamics analysis using ANSYS Fluent.

Bloggy: `http://godot-bloggy.me`   Winter 2016-present

A technical blog to post personal project developments and academic discoveries. Research topics include mathematics, physics, aerodynamics and music. Some notable posts:
- Calculus of Variations - Induced Drag Over a Wing
- Dubby Pendy - A Double Pendulum Simulator
- Academics - Physics and Mathematics

Miscellaneous	**Graphics Designer, AeroMIT**: Aeromodelling Team	Spring 2016-present

- Created an elegant presentation for the Oral Presentation
  component of the SAE Aero Design competition
- Designed the highly praised brochure, standee and banner representing
  the airplane presented to the SAE Aero Design engineers
- Designed posters as advertising for the recruitment process
  of juniors into the team

Best Outgoing Student - Symbiosis International School, Class Rank 1 — 2013

Model United Nations Awards
- High Commendation, NATO, Symbiosis International University — 2014
  Model United Nations Conference
- High Commendation, Security Council, Indian International — 2013
  Model United Nations - Mumbai and Pune
- Best Delegate, Security Council, Mahindra United World College — 2012
  Model United Nations

Trinity Guildhall, London - Distinction in Plectrum Guitar Grades 1 & 2 — 2011

Music Production — 2010-present

- Produced, mixed and mastered my original compositions
- Produced, mixed and mastered 2 songs for Paradox, a band which has won
  multiple national-level music competitions hosted by universities in India

Music Performances — 2007-2013

- Performed on MTV's Independence Rock as Lead Guitarist of Zepheroth (band)
  in a televised appearance on MTV and VH1 India: `http://y2u.be/8H-bg7tTH7g`
- Lead Guitarist of School Bands (Western music)