

# SAVAR SHIRBHATE

## Undergraduate Mechanical Engineering Student & Aero Enthusiast

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savar25

📍 Dubai,UAE

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## INTERNSHIP EXPERIENCE

### Vortex Collision Dynamics

#### Indian Institute of Technology

📅 May 2021 - Present 📍 Kanpur,India

- Designed chamber structure for small to large vortex ring collisions
- Ran Dynamic Simulations on Vortex Ring evolution and head on collision
- Simulations were used to plot ring growth and speed
- Developed system to test collision using MATLAB and ANSYS FLUENT

### Dynamic Analysis of Valve Train Mechanism Using FEM

#### National Institute of Technology

📅 May 2021 - July 2021 📍 Tiruchirapalli, India

- Worked on optimising dimensions and simplifying spring system to allow ease of movement of valve parts with minimum wear
- Oversaw transient analysis of 7+ component systems through SOLIDWORKS and ANSYS Mechanical

### HVAC System Design

#### ANT Engineering

📅 Jan 2021 - Feb 2021 📍 Dubai,UAE

- Worked towards understanding ducting and pipelines optimisation
- Worked on understanding architecture-based pipeline planning

## PROJECTS AND COMPETITIONS

### Commercial VTOL Development

#### Club Project

📅 Feb 2021 - Present 📍 Tiruchirapalli, India

- Working on body design and control to help vertical flight and transition
- Optimising Rotor motion in 3 Dimensions to prevent transition failures
- Optimised for surveillance and delivery

### Inertial Measurement Unit (IMU)

#### Course Project

📅 Apr 2021 📍 Tiruchirapalli, India

- Developed IMU for velocity and gyroscopic calculations in UAVs for 6 degrees of freedom
- Worked with piezoelectric materials and capacitive differences for measurement and feedback.

### Moderate Speed RC Glider with High Manoeuvrability

#### SkyRush 2020 Competition

📅 Dec 2020 📍 Manipal, India

- Won 4th place overall and 2nd in design report
- Developed a fixed Centre of Gravity Plane with ease in motion control
- Worked on payload release mechanism, wing planform and attachment structure and servo control

## EDUCATION

### B.Tech in Mechanical Engineering

#### National Institute of Technology

📅 June 2019 - Present 📍 Tiruchirapalli,India

- Current CGPA (2nd Year End) : 9.42/10
- Department Rank : 3
- Minor in Electronics and Communications

### High School

#### The Indian High School

📅 Sept 2017-Apr 2019 📍 Dubai,UAE

- All India Senior Secondary School Examinations: 96.6 %

### Senior Secondary

#### Sunrise English Private School

📅 Apr 2015-Mar 2017 📍 Abu Dhabi,UAE

- All India Secondary School Examinations: 10/10

## TECHNICAL SKILLS

### Design and Analysis Software

- ANSYS (FLUENT/CFX/Mechanical)
- Solidworks (Design and Simulations) •XFLR5
- AutoCAD •Inventor Pro •HAP (Heat)

### Languages

- C++ •Java •Python •FLUENT C •HTML
- LATEX

### Computer tools and Frameworks

- Android Studio •Arduino •MATLAB/Simulink
- Firebase •SQL DB •MS Office •HTML

## RELEVANT COURSES TAKEN

### Pure Mechanical

- Fluid Mechanics •Strength of Materials •Thermal Engineering & Heat Transfer
- Continuum Mechanics •Finite Element Method

### Electronics

- Digital Circuits •Signals and Systems
- Electronic Circuits

### Control and Design

- MEMS Devices •Mechatronics •Power Electronics Basics

## SOFT SKILLS

- Communication •Punctuality •Leadership
- Open Mind •Motivator •Cooking

## Low Speed Micro RC Glider

### Aerodominator 7.0 Competition

📅 Oct 2020

📍 Vellore, India

- Came Top 10 in around 56 teams
- Developed body designs to maximise payload and fix centre of gravity
- Designed vehicle body, delivery and servo mechanisms & airfoil selection

## POSITIONS HELD

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### 3rd Dimension Aeromodelling Club

from 2020 - Senior Design Engineer

### Office of International Relations

from 2021 - Head, Events

### Aaveg (Festival)

from 2021 - Manager, Core

### Festember (Festival)

from 2020 - Deputy Manager, Rolling Reels Film International Festival

### Synergy (Symposium)

from 2020 - Coordinator, Events and Guest Lectures

## LANGUAGES

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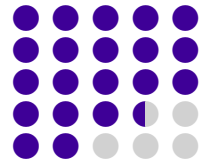
English

Hindi

Marathi

French

Arabic



## RESEARCH INTERESTS

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Aerodynamics

Fluid Mechanics

Optimised Body Design

Propulsion

Fluid Structure Interactions

Vortex Dynamics

CFD

Control Systems