

# Pruthvi R. Utturwar

9689342035 | pruthvi12u@gmail.com  
<https://www.linkedin.com/in/pruthvi-utturwar-a5a584132>



## Objective

Want to work in **Research oriented Multidisciplinary** environment contributing to long term goals of the organization. I have descent understanding of coding languages, Fluid, Thermal, Aerodynamics, Flight Dynamics, Gas Dynamics, Rocket systems, classical physics and applied maths.

I'm looking for the job role where I will be dealing with the challenging problems in the field.

## Experience

- **AERONAUTICAL ANALYST, (HI-TECH ISOLUTION AHMEDABAD) 1+YEAR**  
(Received incentives for excellent performance)

## Education

- **M- TECH MODELLING AND SIMULATION - CGPA – 8.0**  
(Defense Institute of Advanced Technology, Pune)
- **B.E. AERONAUTICAL ENGINEERING - CGPA - 7.97**  
(RTMNU, Nagpur)
- **GATE AIR : 284 (Aerospace)**
- **JEE Mains qualified**

## Projects

### **Motion compensation Techniques in ISAR imaging (M.Tech Thesis work)**

-In this ISAR is simulated in C++ & Matlab, motion compensation methods applied. Modified methods in motion compensation proposed. This project includes application of mathematical formulation of ISAR, signal processing and code development.  
(M.Tech Thesis work)

### **Investigation of Freon gas as rocket fuel (B.E Thesis work)**

-Combustion study of Freon gas with oxygen and rocket performance analysis is carried out using RPA software. This project also includes analysis of rocket engine for particular combustion pressure using Ansys fluent. Chemical analysis of combustion was also carried out.

### **Flexible wing concept design (B.E. Aircraft design project)**

-The core motivation of this project was to reduce the drags caused by discontinuity between main wing and control surfaces. A comparison study was carried out using Ansys

fluent to show the significant drag reduction. A simple mechanism was proposed to make the wing flexible.

### **3-D Heat conduction simulation (M.Tech)**

-This project was the part of numerical analysis in CFD. A Matlab code was developed to simulate and visualize the 3-d heat conduction using diffusion equations with FDM. Desired boundary condition can be given as per the problem. A structured grid was used.

### **Thermal protection system design (M.Tech)**

-In thermal protection system, it is required to calculate the thickness of the insulating material. Insulating material should sustain all the given operating conditions. For high heat flux problem such as Space vehicle re-entry, light material selection and calculation of shield thickness was carried out. Python code with FVM scheme was developed for it.

### **Gravitational model for orbit around planet (M.Tech)**

-Dynamic trajectory of an object when released into gravitational environment was simulated using python. For this concept of gravitation and dynamics was used.

### **Lid driven cavity flow analysis (M.Tech)**

-A flow over a cavity was simulated using FVM schemes coded into Matlab. The validation and visualization of velocity fields using contour plots and velocity vector field was carried out.

## **Internships**

- **Zeus Numerix pvt. Ltd.**  
(Research Intern)
  - Computational Electromagnetics
  - Optimising radar signature
  - Ansys Fluent, Gmesh, Paraview
  - Solid works
  - C++ development, Linux script
  - Software testing
  - UAV Design
  - Ansys Fluent, Gmesh, Paraview,
  - Solid works

## **Areas of Interest**

- Classical Physics and Applied Maths
- Theoretical physics
- Drawing and painting
- Pottery

## **Extra curricular**

## **Technical and Personal Skills**

- C++, Matlab, Python
- Solid works, Ansys Fluent
- Optimisation Techniques
- ML and Neural Network
- CFD schemes FDM,FVM,FEM in depth understanding
- Flight Mechanics, Aerodynamics, Gas Dynamics
- Numerical Methods

- Tutored village students for their 10th
- Lead the project team in B.E.

## **Languages known**

- English, Hindi, Marathi

Declaration: - The information provided above is true to best of my knowledge

