

# Priyanka Magar-Sawant

PhD, Indian Institute of Technology Bombay

Mathematician · Aerospace and UAV Innovation

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## Professional Summary

PhD Mathematician with a specialized evolution from theoretical research in manifold theory to building practical models for the aerospace industry. Currently focused on Log Data Analysis and mathematical modeling to enhance UAV autonomous technologies.

## Experience

### Raphe mPhibr

Mathematician

Aerospace & Defense R&D: Specializing in UAV geometries and Log Data Analysis.

Noida

Sept 2025 – Present

### IIT Madras

Research Associate

Advanced postdoctoral research in topological complexity and robotics applications.

Chennai

July 2024 – Feb 2025

### IIT Bombay

Research Associate

Academic assistance in Calculus, Linear Algebra, and Differential Equations.

Mumbai

May 2024 – June 2024

## Education

### Indian Institute of Technology Bombay

Ph.D. in Mathematics

Thesis: Smooth structures on PL-manifolds of dimensions between 8 and 10.

2018 – 2024

### University of Pune

M.Sc. Mathematics

GPA: 8.05

Pune

2015 – 2017

### S.P. College

B.Sc. Mathematics

Percentage: 87.25%

Pune

2012 – 2015

## Technical Skills & Certifications

**Languages:** Python, MATLAB,  $\text{\LaTeX}$ , Git, Linux.

**Tools:** Ardupilot Filter Review, MAGFit, Log Data Analysis.

**Certification:** Machine Learning Specialization – DeepLearning.AI & Stanford University (2025).

## Selected Publications

**2024:** P. Magar-Sawant, "Concordance structure set of connected sum of projective spaces," *Proceedings-Mathematical Sciences*.

**2024:** S. Basu, R. Kasilingam, P. Magar-Sawant, "Smooth structures on PL-manifolds of dimensions 8-10," *arXiv:2302.02301*.

## Selected International Conferences

**Aug 2024:** Young Topologists Meet, Munster, Germany.

**July 2023:** International Conference on Topology, Nafpaktos, Greece.