# Akshat Srivastava

Curriculum Vitae

akshat.srivastava2255@gmail.com
bunchofcellulose.github.io/
linkedin.com/in/iam-akshat-srivastava/
github.com/bunchofcellulose

## WORK EXPERIENCE

NOV 2025 – JAN 2026 (PT)

olyprep.io
***Instructor***

Tasked with making comprehensive handouts, problem sets, and mock tests for various topics in Astronomy, to prepare students for the United States Astronomy and Astrophysics Olympiads (the First Round and the National Astronomy Competition). Attended questions and cleared doubts.

## EDUCATION

APR 2024 – PRESENT **Higher Secondary School (Grade XII)**
RANKED 1ST IN GRADE XI (97% AGGREGATE)
CBSE Board (Science)
*Narayana E-Techno School*

APR 2012 – APR 2024 **Secondary School (Grade X)**
RANKED 3RD IN SCHOOL WITH 98% AGGREGATE
CBSE Board
*St. Peter's Academy*

## AWARDS

2025 **Gold Medal, World Rank 31**
International Olympiad on Astronomy and Astrophysics (IOAA)

2025 **Silver Medal**
National Astronomy Competition (NAC)

2025 **Global Shortlist – Top 50 Teams**
CERN Beamline for Schools (BL4S)

2025 **Best Solution to a Challenging Problem Award in Theory & Data Analysis**
Astronomy Orientation-cum-Selection Camp (Astronomy OCSC)

2025 **International Rank 21 (Category A)**
PhysicsBrawl Online

2025 **National Rank 32 (Senior Category)**
Panini Linguistics Olympiad (PLO)

2025 **International Rank 11 (Category A)**
Indian Statistical Institute (ISI) LIMIT

## OUTREACH

OCT 2025 **Guest Speaker: Astronomy & Olympiads**
Delivered educational seminars across five branches of Narayana E-Techno Schools to promote STEM engagement among middle-school students

## RESEARCH

**"Stationary Points in Yukawa-corrected $N+1$ Maxwell Ring"**

This study investigates the stability and zero-velocity geometry of an $N+1$ body ring system subject to a finite-range Yukawa interactions. By employing a bisection-refined gradient search, the research quantifies non-monotonic shifts in equilibrium positions and identifies parameter windows where entire families of stationary points are created or destroyed. The results reveal that Yukawa corrections induce topological regimes distinct from the classical Newtonian baseline, with significant implications for particle trapping in screened-gravity systems

**"Characterization of and Shielding Against Single Event Effects (SEEs) in EEPROMs"**

Collaborated with a team to design an experiment characterizing the vulnerability of EEPROM memory to cosmic radiation for the CERN Beamline for Schools competition. The proposal outlines a method to measure the saturated cross-section of Single Event Effects (SEEs) using a T9 beamline (0.6–0.9 GeV/c). The project aims to statistically evaluate the shielding performance of concrete, aluminum, and polyethylene using Weibull distribution analysis to improve reliability for accelerator and space systems

## PROJECTS

**Astronomy Olympiad Guide (AO Guide)**

Developed a comprehensive online learning platform for Astronomy Olympiad aspirants globally. The website serves as a centralized repository for preparation of Astronomy Olympiads, facilitating structured learning for students, used by over 4,000 learners across the globe.

**Online Astronomy Competition (OAC)**

Hosted an online Astronomy competition for astronomy olympiad aspirants worldwide. The competition consisted of an open round and an invitational round. The open round saw over 340 registrations from 44 countries, 30 of which were selected for the invitationals. The competition is deemed to be the hardest astronomy competition.

**Celestial Sphere**

Engineered an open-source Rust/WASM-based web application that provides a neat and user-friendly interface for drawing and visualizing diagrams on a sphere. This is a tool for students and educators to easily learn and engage with spherical diagrams, which are commonly used in spherical astronomy.

## STANDARDIZED TESTING

2025 **1530 SAT (Superscore)**
730 EBRW, 800 Math

## TECHNICAL SKILLS

LANGUAGES **Programming:** Python, Rust, C/C++, TypeScript Arduino
**Typesetting:** LaTeX, Markdown, HTML/CSS

SOFTWARE **Simulation & Design:** Blender (3D Rendering)
**OS:** Linux (Ubuntu/Fedora/Arch), Unix Shell

## HOBBIES & INTERESTS

CHESS **Crossed 2000 elo (Rapid) on Lichess**
Ranked in the top percentiles of global active players

CODING **Competitive Programming and Hackathons**
Participant in Timathon 2022 and HackClub Scrapyard 2025

ASTRONOMY **Observational Astronomy**
Practical experience with telescope operation