AMBICA GOVIND

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Email ◇ LinkedIn ◇ GitHub

PROFILE

- Inquisitive, passionate and committed student eager to further research experience in the field of Theoretical Physics.
- Independent learner and detail-oriented student with good creative thinking
- Adept with spoken and written communication skills

EDUCATION

Bachelor of Engineering Physics, Indian Institute of Technology Hyderabad — Expected 2025

- GPA:9.28/10
- Major: Engineering/Applied Physics
- Intended minor in mathematics

High School Diploma, Delhi Public School Vijayawada — 2019 - 2021

- Graduated top of my class with 97.4% in CBSE Board Exams
- Best Outgoing Student 2020-21
- Academic Excellence Awardee in Science and Mathematics

SKILLS

Proficient	Python, NumPy, Pandas, MATLAB
Familiar	Git, LaTeX, C
Other	Strong Communication Skills, Academic Writing, Creativity, Critical Thinking
Astronomical Software	TOPCAT, SAO-DS9, CASA(learning)

EXPERIENCE

Summer Project — May 2023-Present
Krittika, Indian Institute of Technology Bombay

- On radiative processes in astronomy focusing on Fast Radio Bursts and Pulsars.
- Skills: Radioastronomy, Python, CASA
- Guided by Kunal Deshmukh and Arvind Balasubramanian

Undergraduate Astrophysics Research Student — Jan 2021 - Present
Indian Institute of Technology Hyderabad

- Worked under Prof Shantanu Desai, Professor of Physics at IITH and Prof Gauri Sharma, University of Western Cape.
- Developed colour composite images of galaxies from different bands from HST Data
- Analysed data from DECaPS2, Gaia EDR3, PanSTARRS and ATNF Pulsar Catalogue to look for optical counterparts of millisecond pulsars
- Trained for remote observation of pulsars from the CSIRO Parkes Radiotelescope
- Photometry of galaxy clusters using data from SDSS and PANSTARRS and acquired experience with TOPCAT, SAO DS9 and Python Libraries for Astronomy
- Currently working on a project to study Star Formation Rates of disk galaxies in the IllustrisTNG Simulation.

Attendee,Gravitational Wave Open Data Workshop

- Organised by the LIGO-Virgo Collaboration, I acquired skills in handling LIGO data to study Gravitational waves.
- Learned aspects of waveform generation, data quality, searched for signals of Compact Binary Coalescences(CBC) in data.
- Utilised Bayesian inference to estimate source parameters of a Binary Black Hole System.

Astronomy Club Coordinator May 2021 - Present
SciTech Council, IIT Hyderabad

- Trained club members to operate a 10-inch Dobsonian Telescope
- Acquired skills in astrophotography and planetary imaging and processing
- Organised stargazing events, guest lectures and outreach programmes to popularise astronomy
- Currently member of a team working on automating the club telescope by integrating Stellarium and Arduino

LICENSES AND CERTIFICATIONS

MATLAB Onramp MathWorks Inc.
Understanding Einstein:The Special Theory of Relativity Stanford University
Grade:100%
The Science of The Solar System Caltech
Grade:A
Astrobiology:Exploring Other Worlds University of Arizona
Grade:A
Python for Data Analysis:Pandas and NumPy Coursera Guided Project
Grade:100%
Python for Data Visualisation:Matplotlib and Seaborn Coursera Guided Project
Grade:100%
Elite Certification in Nuclear Astrophysics IIT Roorkee

AWARDS AND HONORS

- **Kishore Vaigyanik Protsahan Yojana(KVPY) Fellow**
  Conferred by Indian Institute of Science Bangalore and Government of India
  Achieved an All-India Rank of 620 in the research-oriented aptitude test
- **National Talent Search Examination(NTSE) Scholar**
  Awarded by Central Board of Secondary Education and Government of India
- **Gold Honour in International Astronomy and Astrophysics Competition**
- **Silver Honour in International Youth Math Challenge**
- Selected for BS-MS Dual Degree in IISER Pune via both KVPY and JEE-Advanced Pool
- Selected for MBBS at KEM Medical College Bombay via NEET-2021
- Selected for B.Tech Programme at Indian Institute of Space Technology, Trivandrum
- **Certificate for Excellent Performance: Physics Online Lecture Series for Postgraduate Students**
  Awarded by Indian Association of Physics Teachers
- **Certificate of Appreciation in Science Writing Contest** Awarded by Ministry of Science and Technology, Govt of India

VOLUNTEERING

Citizen Scientist Zooniverse

Helped planetary scientists in their research on Martian Southern Polar Atmosphere by manually analysing images from the Mars Reconnaissance Orbiter as part of NASA's HiRISE Experiment.

LANGUAGES

English : Full Professional Proficiency
Hindi : Native Speaker
Japanese : Elementary Proficiency
French: Elementary Proficiency
Telugu : Professional Working Proficiency