

Kushagra Shrivastava

[Email](#) [LinkedIn](#) [Website](#)

Skills and Interests	Observational Astronomy, Cosmology, Computational Modeling, Data Analysis, Science Communication, Competition Organisation	
Education	National University of Singapore <i>Bachelor of Science in Physics (Hons.)</i> <i>Specialisation in Astrophysics</i> <i>Special Program in Science</i> <i>NUS College</i> Year 3 Sem 1 GPA: 4.78/5.00	2023 — Present
	University of Copenhagen (Københavns Universitet) <i>Semester-long Exchange Student</i> Same academic information as above	2026 — Present
Research Experience	Optimisation of LEO satellites Doppler shift compensation by reducing TLE errors and improving trajectory prediction algorithms <i>Satellite Technology and Research Center, Singapore</i> Advisor: A. Prof Abhishek Rai	2025
	Fano Resonant Metasurfaces for Virus Testing Application <i>A*STAR Institute of High-Performance Computing, Singapore</i> Advisor: Dr. Hong-Son Chu	2021—2022
	Growth Analysis of Sunspot in AR12741 using High-Resolution Solar Imaging <i>National Junior College, Singapore</i> Advisors: Mr. Alfred Tan and Ms. Ning Hwee Tiang	2021
	Closing-up onto our sun: Solar Imaging <i>National Junior College, Singapore</i> Advisors: Mr. Alfred Tan and Ms. Ning Hwee Tiang DOI: https://doi.org/10.1051/epjconf/202024007011	2019—2020
Teaching and Mentoring	CS1010S Introduction to Programming Methodology <i>Teaching Assistant</i> National University of Singapore	AY25/26 Semester 1
	SP2273 Working on Interdisciplinary Science, Pythonically <i>Mentor and Teaching Assistant</i> National University of Singapore	AY25/26 Semester 1
	SP3176 The Universe <i>Mentor and Teaching Assistant</i> National University of Singapore	AY25/26 Semester 1
	SP3275 Science for a Sustainable Earth <i>Fieldwork Mentor</i> National University of Singapore	AY25/26 Semester 1
Professional Memberships	Royal Astronomical Society <i>Elected Fellow (FRAS)</i>	2023—Present
	European Astronomical Society <i>Affiliated Member</i>	2023—Present

Leadership Positions	Cosmic Cup 2023—Present <i>Founder, Administrator, Question Master</i> Long-Type Questions: Explosion and Expansion — Hubble Parameter calculation through Type Ia Supernovae, Vedic Knowledge — Practical Astronomy through Astrology’s lens Website: www.cosmiccup.org
	National University of Singapore Astronomical Society <i>President, 27th Executive Committee</i> 2024—2025 <i>Director of Academia, 26th Executive Committee</i> 2023—2024
	AstroChallenge <i>Finals In-Charge</i> 2025 <i>Question Master</i> 2024—2025 Long-Type Questions: MOND-ifynig Newton’s Gravitation (2024), The Sound of Space — Baryonic Acoustic Oscillations (2025) Website: www.astrochallenge.org
	CodeDay <i>Assistant Regional Manager, Singapore</i> 2023 <i>Volunteer, Lucknow, India</i> 2024—2025 <i>Volunteer, Kolkata, India</i> 2024 Website: www.codeday.org
	Scholarships and Awards
	NUS Science and Technology Merit Scholarship 2023—2027 <i>Awarded by National University of Singapore</i> Full-ride scholarship (with other benefits) for undergraduate studies.
	A*STAR Youth Scholarship 2019—2022 <i>Awarded by A*STAR and Ministry of Education, Singapore</i> Full-ride scholarship (with other benefits) for Grade 9 to Grade 12 studies.
	Best Research Presentation at SPS Congress 2025 <i>Awarded by Special Program in Science</i> Awarded for best presentation on “Optimisation of LEO satellites Doppler shift compensation by reducing TLE errors and improving trajectory prediction algorithms”
	Finalist, International Natural Sciences Tournament 2024 <i>Awarded by International Natural Science Tournament Committee</i>
	Second Runner-up, PLANCKS Singapore Preliminaries 2024 <i>Awarded by Institute of Physics, Singapore, Student Chapter</i>
Sembcorp Marine Prize 2023 <i>Awarded by National University of Singapore</i> Awarded for being the “Best Student in Physics”	
Best Research in Sustainable Material Category 2022 <i>Awarded by National Junior College</i> Awarded for “Fano Resonant Metasurfaces for Virus Testing Application” research.	
Gold Prize, International Geosciences Challenge 2022 <i>Awarded by Asia Oceania Geosciences Society</i> Awarded for “Growth Analysis of Sunspot in AR12741 Using High-Resolution Solar Imaging” research presentation.	
Merit and Commendation Awards, NJC STaR Symposium 2021 <i>Awarded by National Junior College</i> Awarded for “Growth Analysis of Sunspot in AR12741 Using High-Resolution Solar Imaging” research.	

	Merit Award, NJC STaR Symposium	2020
	<i>Awarded by National Junior College</i>	
	Awarded for “Closing-up onto our sun: Solar Imaging” research.	
Conferences	NUS Special Program in Science Research Congress	2025
	Presented <i>Optimisation of LEO satellites Doppler shift compensation by reducing TLE errors and improving trajectory prediction algorithms.</i>	
	NJC STaR Symposium (Virtual)	2022
	Presented <i>Fano Resonant Metasurfaces for Virus Testing Application.</i>	
	Singapore Science and Engineering Fair (Virtual)	2022
	Presented <i>Fano Resonant Metasurfaces for Virus Testing Application.</i>	
	Thai Astronomical Conference (Virtual)	2022
	Presented <i>Growth Analysis of Sunspot in AR12741 Using High-Resolution Solar Imaging.</i>	
	Singapore Science and Engineering Fair (Virtual)	2021
	Presented <i>Growth Analysis of Sunspot in AR12741 Using High-Resolution Solar Imaging.</i>	
	Asia-Oceania Geosciences Society AGM (Virtual)	2021
	Presented <i>Growth Analysis of Sunspot in AR12741 Using High-Resolution Solar Imaging.</i>	
	NJC STaR Symposium (Virtual)	2021
	Presented <i>Growth Analysis of Sunspot in AR12741 Using High-Resolution Solar Imaging.</i>	
	NJC STaR Symposium	2020
	Presented <i>Closing-up onto our sun: Solar Imaging.</i>	
	South-East Asian Astronomy Networking Meeting	2019
	Presented <i>Closing-up onto our sun: Solar Imaging.</i>	