

Himanshu

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EDUCATION

National Institute of Technology Karnataka, Surathkal <i>M.Tech in Computational Data Science</i>	2025 – Present <i>CGPA: 8.95</i>
Indian Institute of Technology, Indore <i>M.Sc. Astronomy</i>	2019 – 2021 <i>CGPA: 8.39</i>
Delhi Technological University, Delhi <i>B.Tech. Engineering Physics (Major: Electronics, Minor: Robotics)</i>	2014 – 2018 <i>CGPA: 7.69</i>

RESEARCH EXPERIENCE

Master's Thesis: Galaxy Clusters via Sunyaev–Zel'dovich Effect <i>Indian Institute of Technology Indore</i>	2019 – 2021 <i>Research Scholar</i>
<ul style="list-style-type: none">– Performed data analysis and image processing of galaxy clusters using Monte Carlo methods.– Simulated Sunyaev–Zel'dovich effect images using Python and C++ with theoretical and experimental modeling.– Conducted MCMC parameter estimation on simulated and observational data showing strong agreement.	
Industrial Internship <i>Central Electronics Limited, Uttar Pradesh</i>	June 2017 – July 2017 <i>Intern</i>
<ul style="list-style-type: none">– Tested piezoelectric elements for quality control and performance validation.– Analyzed electrical constants and capacitance values for product assessment.	

PROJECTS

Time Series Forecasting of COVID-19 <i>Python, ARIMA</i>
– Developed ARIMA-based forecasting model achieving predictions within 95% confidence intervals.
Hamiltonian Monte Carlo for Parameter Estimation <i>Python, Bayesian Inference</i>
– Implemented HMC for Supernova Ia cosmological data with ~70% acceptance rate.
– Achieved Gelman–Rubin convergence ratio ~0.96 across chains.
Importance Sampling for Cosmological Parameters <i>Python, Statistical Modeling</i>
– Applied importance sampling techniques achieving ~88% sampling efficiency.

TECHNICAL SKILLS

Languages: Python, C++, C, SQL, JavaScript
Technologies: Azure, TensorFlow, PyTorch, TensorRT, Tableau, Power BI
Concepts: Machine Learning, Monte Carlo Methods, MCMC, Time Series Analysis, Statistical Modeling

ACHIEVEMENTS & CERTIFICATIONS

Microsoft Certified: Azure Data Scientist Associate <i>Microsoft</i>	2025
Poster Presentation <i>Astronomical Society of India</i>	2021