

Sudhanshu Kumar

Type 4/8, CIAE Campus, Nabibagh, Bhopal, M.P., India- 462038

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Education

Degree	Specialization/Board	Institute	CGPA/Marks	Year
M.Tech	Earth System Science and Technology	IIT Kharagpur, India	9.36/10	2020-22
B.Tech	Mechanical Engineering	IIT BHU Varanasi, India	7.77/10	2013-17
10+2	CBSE	K N Memo Academy, India	84.8%	2013
10th	CBSE	SKP Vidya Vihar, India	9.8/10	2011

Technical Skills

- o Languages: Python, FORTRAN (basics)
- o Software Packages: Microsoft Office (word, Excel, PPT), MATLAB, AutoCAD.

Publications

- o Behera MD, Mudi S, Shome P, Das PK, Kumar S, Joshi A, Rathore A, Deep A, Kumar A, Sanwariya C, Kumar N. COVID-19 slowdown induced improvement in Air quality in India-Rapid assessment using Sentinel-5P TROPOMI data. Geocarto International. 2021 Oct 14:1-7.
- o Kumar S, Chandrakar R and Chakraborty A. Analysis of marine heat waves in Palk Strait region in the recent period. Journal of Operational Oceanography. 2022 Feb: *Submitted for peer-review*.
- o Sharma RK, Kumar S and Padmalal D. Streamflow prediction using machine learning models in selected rivers of Southern India. Natural Hazards. 2022 Mar: To be *submitted for peer-review*.

Research Projects

<u>M.Tech Thesis</u>	IIT Kharagpur, India	Aug 2021-Present
<i>Supervisor: Prof. Arun Chakraborty</i>		
o Analysis of Marine Heat Waves in tropical Northern Indian Ocean.		
Collaborative research project	National Center for Earth Science Studies, Kerala	Apr-Jul 2021
<i>Supervisor: Dr. Rajat K Sharma</i>		
o Predicted streamflow in three rivers using rainfall, max. and min. temperature as input variables.		
o Compared three Machine Learning models' performance on 35 years time-series data at daily and monthly scales.		
Research Internship	National Geophysical Research Institute	May-Jun 2021
<i>Supervisor: Dr. Radheshyam Yadav</i>		
o Worked on a project on Geodynamic modelling using 'Aspect'-A mantle convection software.		
o Simulated a 2D model and visualised how crust & mantle fluid density and temperature change with time.		
Collaborative research project	IIT Kharagpur, India	Jan-Apr 2021
<i>Supervisor: Prof. MD Behara</i>		
o Co-authored a project titled "COVID-19 slowdown induced improvement in Air quality in India - assessment using Sentinel-5P TROPOMI data".		
o Observed change in the trend of seven important atmospheric variables using Google Earth Engine platform.		
B.Tech Project	IIT BHU Varanasi, India	Aug 2016-Apr 2017
<i>Supervisor: Prof. R K Gautam</i>		
o Development of porous alumina coating using two-step anodisation on aluminium substrate.		
o Involved usage of SEM for determining pore diameter and inter-pore distance, scratch tester for wear rate comparison, vikers hardness test for measuring the improved microhardness.		

Work Experience

PG Department Representative	IIT Kharagpur, India	Aug 2021-Present
o Liaison between professor & students, being their point of contact for academic & extra-curricular endeavors.		
o Helping PG students with academic and administrative issues, and working for constructive changes.		
Centre for Social Responsibility and Leadership (CSRL), Delhi		Jul 2019-Aug 2020
Academic Officer (Reporting to Executive Director and Academic Advisor)		
o Part of physics practice/test-paper development team and reviewing test results.		
o Managing Academic Operations of twenty-four Super30 projects running at different locations pan India.		
o Part of the faculty recruitment process and students' selection & final admission process of each project.		

Teaching Experience

Academic Officer (Project)	OMC Super 30, Bhubaneswar (a unit of CSRL)	Jul 2017-Jun 2019
o Teaching Physics at 10+2 level and conducting doubt clearing sessions for 85 students.		
o Mentoring, helping students in completing assignments and conducting chapterwise tests.		

Teaching Assistant	Indian Institute of Technology (IIT)	
o <i>Responsibilities</i> : Assisting professors in designing the course, conducting quizzes, evaluating assignments and guiding academically under-performing students through after-class discussions.		
1. CL-60003 Advance Meteorology (Postgraduate Level Course)	IIT Kharagpur, Aug 2021 - Dec 2021	
2. ME-1201 Engineering Mechanics (Undergraduate Level Course)	IIT BHU Varanasi, Aug 2015 - Dec 2015	

Industrial Internships

JCB India Limited, Haryana		May-Jul 2016
o Worked on a project on shifting of 3CX model backhoe from old assembly line to new assembly line.		
o Proposed a revised plan for manpower allocation and material representation.		

Kota Thermal Super Power Plant, Rajasthan		May-Jun 2015
o An overview on working of Boilers, Coal and Ash Handling Plant and various other elements of the power plant.		
o Calculated thermal efficiency, major heat loss, and pollution caused by the plant.		

Achievements / Extra Curricular Activities

o Awarded with M.Tech Assistantship (2 years masters course) by Ministry of Education, Govt. of India.		
o Awarded with MCM Scholarship (4 years in undergraduate), given to top 15% students by MHRD, Govt. of India.		
o Worked as a volunteer in the management team of Convocation 2021 at IIT Kharagpur.		
o Conducted workshops, and counselling sessions in various schools of Odisha for creating awareness about the need for higher education (2017-19).		
o Coordinator in COMET'16, the departmental conference of Mechanical Engineering, IIT BHU Varanasi (2015-16).		
o Co-coordinator of AMC (aero-modelling club) IIT BHU Varanasi, conducted workshops/tests (2014-15).		
o Member of 'Kashi Utkarth', a student-run social organization working for the betterment of underprivileged people in nearby areas of IIT BHU Varanasi (2013-14).		

Personal Information

o Gender: Male	o Nationality: Indian	o Father: Srinarayan Lal Baranwal
o Date of Birth: Apr 02, 1996	o Languages: English, Hindi	o Mother: Pushpa Lal Baranwal

I hereby declare that the information given above is precise and true to the best of my knowledge