

Chaudhary Kushagra Raj

M.S.

Department of Physics

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EDUCATION

2020-2021	Master of Science in Physics, IIT Kanpur CPI: 6.6
2016-2020	Bachelor of Science in Physics, IIT Kanpur CPI: 6.0
May 2016	Class XII, Central Board of Secondary Education (CBSE), DAV Public School, BSEB, Patna Score: 81%
May 2014	Class X, Indian Certificate of Secondary Education (ICSE), International School, Patna Score: 90.2%

PROJECTS

DataBase

Course: Databases and SQL for Data Science

Mentor: Rav Ahuja, AI and Data Science Program Director, IBM

Worked with Real World Datasets with multiple tables for city of Chicago using Pandas on Jupyter

<https://www.coursera.org/account/accomplishments/specialization/certificate/EJKMFQFET2BD>

Analysing US Economy Data and Building a Dashboard

Course: Python for Data Science and AI

Mentor: Joseph Santarcangelo, Ph.D., Data Scientist at IBM

Analysed the Data of GDP and unemployment of US and built a Dashboard on it

<https://www.coursera.org/account/accomplishments/certificate/QE5GYZXFEJHT>

Analysing the price of houses in US

Course: Data Analysis with Python

Mentor: Joseph Santarcangelo, Ph.D., Data Scientist at IBM

Analysed the dependent of price of houses on different factors using Linear and Polynomial Regression and calculated MSE and Coefficient of Determination

<https://www.coursera.org/account/accomplishments/certificate/JCQH4M86VE57>

Creating my own Chatbot

Course: Building AI Powered Chatbots

Mentor: Antonio Cangiano, Software Developer and Technical Evangelist

Built my own Chatbot using IBM Watson. Created Intents, Entities and Dialog for a flower shop which can tell flower recommendations, stores timing and location.

<https://www.coursera.org/account/accomplishments/specialization/certificate/65H3AZUQZZ3M>

Finding a Geodesic near a Kerr Black Hole

Course: Masters' project

Mentor: Dr. Tapobrata Sarkar, Department of Physics, IIT Kanpur

To study a Null Geodesic near a rotating Black Hole

To plot the Geodesic with MATLAB using Kerr Metric and Lagrangian

Measurement of Change in Refractive Index of Water with a Michelson Interferometer

Course: Optics Laboratory (PHY224A)

Mentor: Dr. Saikat Ghosh, Department of Physics, IIT Kanpur

To study the working of Michelson Interferometer with He-Ne LASER and Sodium Vapour Lamp.

To observe the movement of circular fringes through Charge Couple Device (CCD), when heated water is placed in the path of one arm

Measurement of Quantum Vibration Modes of a C4 Handbell by Holography Interferometry

Course: Modern Physics Laboratory (PHY315A)

Mentor: Dr. Krishnacharya, Department of Physics, IIT Kanpur

To find resonant frequencies with vibration generator and CRO

To obtain a pattern on a Photographic plate formed by interference of a reference Laser beam and a Laser beam reflected from the Vibrating bell

TECHNICAL SKILLS

Programming Languages	: C, Java, Python, R,
Other Tools and Software	: MATLAB, ORIGIN, Pandas, SQL, scikit-learn, matplotlib, seaborn, scipy
Skills	: Data Science, Machine Learning, Deep Learning, Business Analysis, Cloud Databases, RDBMS

ACHIEVEMENTS

1. Secured an **All India Rank 1519** in IIT-JEE (Advanced) 2016, among more than 13,00,000 applicants
2. Entitled to the prestigious *Kishore Vaigyanik Protsahan Yojana (KVPY)* Fellowship (**AIR- 362** in Class XI & **AIR- 62** in Class XII) (Among 1000 present fellows selected by Department of Science and Technology, Government of India from more than 100,000 applicants).
3. Secured an **All India Rank 369** in **GATE** 2020 in Physics.
4. Obtained **90 percentile** in GRE in Physics
5. Obtained **6.5** as Over All Band Score in **IELTS**
6. Scored **79** in **TOEFL**
7. Secured an **All India Rank 176** in **JAM** 2020 in Physics

I.B.M. Certificates:

[What is Data Science](#)

[Tools for Data Science](#)

[Data Science Methodology](#)

[Databases and SQL for Data Science](#)

[Machine Learning with Python](#)

[Introduction to Artificial Intelligence \(AI\)](#)

[Getting Started with AI using IBM Watson](#)

[Building AI Powered Chatbots](#)

[Introduction to HTML5](#)

RELEVANT COURSES

Classical Mechanics	Special Theory of Relativity	Fundamentals of Computing
Optics Laboratory	Fluid Dynamics and Rate Process	Introduction to Electronics
Thermodynamics	Introduction to Quantum Mechanics	Quantum Mechanics 1
Mathematical Methods 1	Modern Physics Laboratory	Modern Optics
Mathematical Methods 2	Statistics and Mathematics	Quantum Mechanics 2
Computational Physics	Experimental Physics 1	Thermal Physics
Quantum Field Theory	Special and General Relativity	Classical Electrodynamics 1

OTHER ACHIEVEMENTS DURING HIGH SCHOOL

CLASS 9:	Secured State Rank 16 & International Rank 43 in Level 1 & State Rank 92 & International Rank 1974 in Level 2 in NSO (National Science Olympiad) conducted by Science Olympiad Foundation Secured State Rank 61 & International Rank 328 in Level 1 & State Rank 101 & International Rank 991 in Level 2 in IOM (International Olympiad Of Mathematics) conducted by Silverzone Foundation
CLASS 8:	Secured State Rank 3 & International Rank 201 in IIO (International Informatics Olympiad) conducted by Silverzone Foundation