Prashant kumar Barnwal

Roll No.:M21PH206
M.Sc.- M.Tech.
Physics and Material Engineering
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Education

Degree/Certificate	Institute/Board	CGPA/Percentage	Year
M.Sc.(Phy)-M.Tech.(Mat Eng.)	Indian Institute of Technology, Jodhpur	7.7 (Current)	2021-Present
B.Sc. (Phy)	St. Xavier's College, Ranchi	7.25	2017-2020
Senior Secondary	Doon Public School Dhanbad(CBSE Board)	70.2%	2017
Secondary	DAV Public School Dhori(CBSE Board)	95%	2014

Projects

- **M.Sc. Project:- Design of Soleil Babinet Compensator under the supervision of Dr V. Narayanan** *Jan. 2023 - May. 2023*
  The versatile device used to generate the Mueller matrix and output stokes vector for a given polarized light
  – **Tools & technologies used**: Object-Oriented Programming/Python
- **Hand Gesture controlled Presentation** *Nov.2022*
  developed a Python code for controlling the movement of the slides during the Presentation using the hand's finger
  – **Tools & technologies used**: Computer vision/OpenCV, MediaPipe python
- **Speech Recognition And Summarization System In Python**
  Using the transfer learning concept that fetches text from the audio file and summarizes it also using deep learning algorithm
  – **Tools & technologies used**: Vosk/Pydub/Pytorch/python
- **What to watch Next**
  Content-based Movie Recommendation system that recommends five other movies based on a given movie.
  – **Tools & technologies used**:Pandas/Numpy/Sci-kit learn python

Internships

- **Quantum Optics Lab Under the Supervision Of Dr V. Narayanan** *May 2023 - Aug. 2023*
  IIT-Jodhpur
  – Design a Heliostat-based solar Concentrator using eight flat mirrors and find the final temperature using 3D optics Software
  – Developed a Python program to extract the Mueller matrix of the Bulk sample and also Led Screen Thin film-based sample using Image processing

Key Courses Taken

–Machine learning for economics using R, Numerical methods using Matlab and C++, Computational Thermodynamics using Thermocalc

Technical Skills

–**Programming:** C/C++, Python, R, JavaScript, SQL, Power-Bi, DSA, Latex
–**Tools & OS:** Git, Jupyter Notebook, Google Colab, Linux, Windows, 3D optics, Trace-Pro, Themocalc, Matlab, VS code
–**Libraries/Frameworks:** Matplotlib, Pandas, Numpy, sci-kit-learn, OpenCV, TensorFlow, Keras, Pydub, MediaPipe,

Positions of Responsibility

– **Student wellbeing Committee,**Student guide 2023-24, IIT Jodhpur *Present*
– **IIT Jodhpur OpenHouse Padharo,**Volunteerily participated in the Physics Department *Feb. 2023*

Achievements

– **Secured 673th Position** JAM 2021 *2021*