



Prabal Modi

UG (IV Year I Semester)
B.Tech. (Metallurgical & Materials Engineering)
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Indian Institute of
Technology
Roorkee



VERIFIED

Education

Year	Degree/Examination	Institution/Board	CGPA/ Percentage
2020	B.Tech. 3rd Year	Indian Institute of Technology, Roorkee	7.891
2016	Intermediate (Class XII)	New Jain Higher Secondary School (MP Board)	86.20 %
2014	Matriculate (Class X)	Saint Dominic Savio Junior High School (ICSE Board)	89.50 %

Internships

Recycling of Li-ion batteries | Design Innovation Center, IIT Roorkee

May 2019 - July 2019

- Recovered cobalt and manganese values from discarded Li-ion batteries
- Utilized atmospheric conditions, unlike conventional routes, to recover metallic values indigenously
- Studied thermodynamics of the recovery process using FactSage software
- Assessed the feasibility of the recovery process with cost analysis
- Recycled residue to obtain lithium with the extraction efficiency over 90%

Projects

Optimal recovery of iron values from low-grade iron ore | IIT Roorkee

December 2019 - January 2020

- Beneficiated iron content using physical beneficiation, carbothermal reduction, and a microwave-assisted process
- Identified the optimal parameters for maximum beneficiation
- Recovered the iron content indigenously with high efficiency

Grinding studies of Banded Iron Ores | IIT Roorkee

October 2019 - December 2019

- Comminuted banded iron ores in order to identify the optimal ball mill operating parameters
- Analyzed data points for modeling the experiment using various python libraries
- Determined the specific rate of breakage and the cumulative breakage parameters using regression

Evaluation of recycling potential of discarded Photovoltaic Modules | IIT Roorkee

July 2019 - November 2019

- Designed the experimental procedure for the recovery process
- Upgraded silver and silicon values in the crushed feed by means of a density-based water fluidization technique
- Recovered silver values with purity greater than 99% using the hydrometallurgical route
- Recycled silicon from the residue with extraction efficiency more than 99%
- Recovered other metals such as copper, tin, and aluminum manually

Awards / Scholarships / Academic Achievements

- Awarded with HoDs Letter of Appreciation for highest improvement in SGPA in Academic Session 2018-2019
- Secured All India Rank - 4707 in JEE-Advanced, 2017
- Secured All India Rank - 12163 in JEE-Mains, 2017
- Second runner up in poetry writing competition held at IIT Roorkee

Skills

Computer languages	C, C++, Python
Software Packages	Git, MATLAB, Processing, Jupyter Notebook
Languages Known	English (SRW), Hindi (SRW)

Positions of Responsibility & Extra Curriculars

UG Representative | Department Academic Program Committee

September 2019 - Present

- Represents undergraduate section in department academic meetings
- Assists in setting up courses, syllabus, and curriculum for undergraduates
- Address grievances and feedback of students regarding academics to the department

Undergraduate Teaching Assistant | Academic Reinforcement Program

September 2020 - Present

- Teaching assistant for first-year students in Metallurgical Thermodynamics and Kinetics course
- Act as liaison between the concerned faculty and students to hold tutorial classes
- Take regular doubt clearing sessions to discuss problems related to the subject

Executive Member | Cultural Affairs Committee

August 2018 - Present

- Plan and manage the flagship of cultural events of IIT Roorkee
- Coordinate with students for pre-event & post-event management
- Responsible for managing the reimbursements, certificates, invitations, posters, etc

Cadet | NCC, IIT Roorkee

July 2017 - April 2018

- Enrolled as a cadet in National Cadet Corps(NCC) 3UK CTR
- Participated in various activities like firing, training, parading, etc.