

# Shiba Sankar Dash

Post Graduate IISc Bangalore  
Materials Engineering

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## Skills

### SIMULATION

ImageJ, VASP, Quantum Espresso, LAAMPS

### LIBRARIES

scikit-learn, Pandas, NumPy, SciPy,  
Matplotlib

### GENERAL PROGRAMMING

Java, Python, C, C++, Matlab

### CHARACTERIZATION

SEM, TEM, XRD

### LANGUAGES

English, Hindi, Odia

## Education

### 2023-PRESENT

M.TECH (RESEARCH)

IISc Bangalore Materials Engineering

CGPA: 8.3/10

### 2018-2022

B.TECH

NIT Rourkela Ceramic Engineering

CGPA : 8.18/10

Minor degree: Materials and Metallurgy

CGPA: 8.29/10

## Extra Curricular Activities

### 2018-2019 Cadet, National Cadet Corps (NCC)

Participated in activities to develop character, discipline, leadership, and ideals of selfless service.

### Nov 2020 Co-ordinator- Event Manager, Innovision

Managed student allocations and roles for the Annual Technical Fest of the Institute, involving 2000+ participants.

### 2019-2021 Core Member, ICS (Ceramic and Material Science Club, NIT Rourkela)

Conducted regular sessions on advancements in ceramics and materials science.

### 2021 Treasurer, Indian Institute of Metals (IIM) NIT Chapter

Organized events related to metallurgy and materials science.

## Work Experience / Projects

### JUNE 2024 - ONGOING Interaction of Hydrogen with Defects in Nickel using DFT and Machine Learning

Using DFT, we addressed the non-linear elasticity and anisotropic behavior of Nickel-based superalloys. Machine learning was employed to predict binding energies and calculate equilibrium concentrations near dislocations.

### JAN 2024-APRIL 2024 Mini project Phase field modelling

Analyze phase separation and microstructural evolution using spinodal decomposition.

### JUNE 2022-FEB 2023 Arcellor Mittal Nippon Steel

Worked as a graduate engineer trainee during which I learned to manage the ladle transfer and ladle lining also manpower management

### 2021-2022 Enhancing Fracture Toughness and Durability of Glass

Analyzed micro-cracks on the glass surface, and their role in reducing fracture toughness, corrosion resistance, and mitigating methods.

### JUNE-JULY 2021 SAIL Rourkela Steel Plant (RSP)

Refractories used in blast furnaces were studied, focusing on a zone-wise distribution based on the chemistry.

## Achievements / Certifications

### 2023 Cleared Gate metallurgy, AIR 259

### 2022 Runners Up, IIM Annual Event

Awarded in the Indian Institute of Metals RSP Chapter annual event.

## Relevant Courses

Structure and Properties of Materials

Physics Of Materials

Probability and Statistics

Electron Microscopy

Defects in Materials

Characterization of Materials

Materials Thermodynamics and Kinetics

Modeling and Simulation in Materials Engineering

## Interests and Activities

Material Science Enthusiast

Problem Solving, Mathematics

Badminton, Travelling, Chess