SANDESH DHAGE

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EDUCATION

Indian Institute of Science (IISC) — Bangalore, India
M.Tech. in Materials Engineering, *current CGPA: 8.00/10.00* — 2024 - 2026

Visvesvaraya National Institute of Technology (VNIT) — Nagpur, India
B.Tech. in Metallurgical and Materials Engineering, *CGPA: 8.09/10.00* — 2019 - 2023

South Point School — Nagpur, India
Class X(SSC), *Percentage: 91.60%* — 2016 - 2017

COURSEWORK

- Numerical Linear Algebra
- Computational Modeling of Materials (A)
- Electronic Properties of Materials (A)
- Semiconductor Deposition and Characterization (A+)
- Computational Mathematics
- Modeling and Simulation in Materials Engineering (A+)
- Materials Informatics
- Thermodynamics and Kinetics

PROJECTS

Numerical modeling of the Effect of Temperature on the Evolution of Irradiation Damage in Iron-Chrome Alloys [M.Tech. Project] — May 2025 - May 2026

Mentor: Dr. Suchandrima Das, IISC

- Developing a Crystal Plasticity Finite Element (CPFE) model in Abaqus to simulate temperature-dependent irradiation damage in Iron-Chrome alloys.
- Refining model accuracy by integrating and calibrating experimental data from nanoindentation, Laue diffraction, and AFM, leading to a more predictive simulation of material behavior.

Development of absorber materials for thin film quaternary solar cells and its modeling studies [B.Tech. Project]
August 2022 - May 2023

Mentor: Dr. Amrut Agasti and Dr. Chaitanya Joshi, VNIT
Team Size: 4

- Developed and modeled CZTS absorber layer for thin film solar cells using electrodeposition technique
- Conducted comprehensive characterization and comparative analysis using techniques like cyclic voltammetry, XRD, Raman spectroscopy, and SEM.

EXPERIENCE

Teaching Assistant , Indian Institute of Science, Bangalore — August 2025 - Present

Course: **Introduction to Materials Science**

- Instruct and evaluate undergraduate students in the course by facilitating tutorials and grading all coursework.

Graduate Engineering Trainee , JSW Steel, Dolvi — Oct 2023 - April 2024

- Oversaw and optimized steel casting processes to enhance productivity and ensure high-quality output.
- Implemented improvements to enhance efficiency, reduce defects, and minimize downtime in the casting process.

Summer Internship Training , — May 2022 - June 2022

Jawaharlal Nehru Aluminum Research Developement and Design Centre, Nagpur

- The extraction of Aluminum from its ore, the characterization techniques, and its downstream processing were studied.
- The work and usage of various analytical testing equipment including SEM, XRD, and XRF.

SKILLS

Data Analysis and Programming:	Python, scikit-learn, C++ (basic), SQL
Modeling Software:	Abaqus, Siemens NX
Characterization Tools:	SEM(Hands on), AFM(hands on), TEM(basic)

WORKSHOPS/CONFERENCES ATTENDED

SPARC Workshop on Advances in Correlative & In-Situ Microscopy , IIT Hyderabad
4-day intensive workshop on advanced material characterization, with exposure to correlative workflows, data analysis, and demonstrations of HRTEM, S/TEM and 4D-STEM.

Micron India Talent Connect , Bangalore
Selected to attend an exclusive summit for technical deep-dives into semiconductor innovation and networking with industry experts on Micron's technology roadmap.

Semiconductor Manufacturing Skills Training Workshop , Indian Institute of Science, Bangalore
Received an overview of key fabrication stages, including photolithography, etching, and thin-film deposition.

ACHIEVEMENTS AND EXTRACURRICULAR

- Secured an All India Rank of **176** in GATE-MT. *2023*
- Member of Departments Design Team. *2025-Present*