CHIKU PARIDA

Ph. D.

Technical University of Denmark - DTU, Lyngby, Denmark

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EDUCATION

Doctor of Philosophy

Technical University of Denmark - DTU | April 2023 – Ongoing | Denmark

Supervisors: Prof. Juan Maria Garcia Lastra, Dr. Arghya Bhowmik; Department of Energy Conversion and Storage, DTU.
Project Title: 'Deep generative models for inverse design of solid electrolytes'

Post Graduate Diploma in Materials Science

Jawaharlal Nehru Centre for Advanced Scientific Research(JNCASR) | September 2021 – August 2022 | India

Supervisor: Prof. Shobhana Narasimhan; Professor, Theoretical Sciences Unit, JNCASR.
Project Title: 'First Principles Study of Dissolution of Platinum in Water'.

Master of Science in PHYSICS

Indian Institute of Technology - BHU | 2019 – 2021 | India

- GPA: 9.44/10
- Thesis: 'Density Functional Theory Study of Topological Materials'.

Bachelor of Science in PHYSICS

Odisha University of Agiculture and Technology | 2016 – 2019 | India

- GPA: 8.87/10

EXPERIENCE

Doctoral Researcher

Technical University of Denmark - DTU | April 2023 – Present | Lyngby, Denmark

Supervisor: Prof. Juan Maria Garcia Lastra and Dr. Arghya Bhowmik; DTU Energy, DTU.

Projects and Responsibilities:
- Development of 3D diffusion models for periodic crystals (Project: 1)
- High-throughput materials discovery using machine learning models (Project: 2)

Materials Design Intern (Research Engineer)

QPIVOLTA TECHNOLOGIES PVT LTD | July 2022 – Present | Bangalore, India

Projects and Responsibilities:

- High-throughput Discovery of Solid Electrolyte for Na-Ion Batteries (Project: 1).
- Machine Learning Interatomic Potentials for Interfaces (Project: 2).
- Co-leader of Project: 1 and in the team for Project: 2.

PGDMS Project Student

Jawaharlal Nehru Centre for Advanced Scientific Research (JNCASR) | Sep 2021 – Aug 2022 | India

Supervisor: Prof. Shobhana Narasimhan; Professor, Theoretical Sciences Unit, JNCASR, India.
Collaborator: Dr. Brandon Wood; Deputy Group Leader; Quantum Simulations Group, Lawrence Livermore National Laboratory(**LLNL**), U.S. **Projects and Responsibilities:**

- First Principles Study of Dissolution of Platinum in Water (Project: 1)

SUMMER SCHOOLS AND WORKSHOPS

Generative Modeling Summer School

Pioneer Centre for Artificial Intelligence | June 2023 | Denmark

- The summer school is targeted towards young researchers working with data science broadly and for whom generative modeling potentially plays a part in their projects.

Workshop on Electrochemical Energy Storage: Theory, Experiments, and Applications

Organized at International Centre for Theoretical Physics | May 2022 | Italy

- The latest developments in the study of battery materials and related chemical and physical processes, such as lithium- and sodium-based, high-valence-ion, and metal-air batteries, electrodes, and electrolytes.

Open course on Computational Materials Physics with Project

Organized at Ghent University | Sep 2021 – Dec 2021 | Belgium

Advisor: Prof. Stefaan Cottenier, Center for Molecular Modeling (CMM), Ghent University, Belgium.

Projects and Responsibilities:

- First-principle Study to Estimate Crystal Formation Energy of $Te_xH_yO_z$ Family and Stability of TeO_3H_x (x = 0, 1, 3) Molecules (Project: 1).
- Worked with another international student.

SKILLS

1. **Density Functional Theory(DFT) computations using VASP - Vienna Ab initio Simulation Package, Quantum ESPRESSO and Atomic SImulation Environment(ASE) & GPAW**
   - Used for the quantum mechanical study of materials.
   - Coupled with machine learning models for high-throughput discovery of materials.
2. **Python**
   - Statistical simulations, scripting, coding, etc.
3. **Machine Learning(ML)**
   - Development of ML models for materials discovery.
4. **Deep Learning(DL)**
   - Artificial Neural Network (ANN), Convolutional Neural Network (CNN), Recurrent Neural Network (RNN), Graph Neural Network (GNN), Generative Advaersarial Network (GAN).
   - Deep generative models for inverse design of materials.
5. **GitHub and GitLab**
6. **Linux**
7. **LaTEX**

LAB EXPERIENCE

1. **Condensed Matter Physics Lab** (AC Dielectric constant and dielectric loss measurement, XRD Analysis, Seebeck Coefficient Measurement etc.)
2. **General Physics Lab** (Fourier Optics with computational Analysis of images - Fast Fourier Transform and Inverse Fast Fourier Transform using MATLAB, Magnetostriction, Mach-Zhender Interferometer etc.)
3. **Analog Electronics and Digital Electronics Lab** (All Basic Electronic Circuits and 8050-microprocessor)
4. **Spectroscopy Lab**

LANGUAGES

English | **Hindi** | **Odia**
Mother tongue

ACADEMIC REFEREES

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