



Abhishek Chattopadhyay

Data Scientist

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ABOUT

Data scientist with a strong background in computational physical chemistry and over three years of experience analysing complex systems using Python and computer simulation. Skilled in machine learning, deep learning, cloud computing, with expertise in Python, data analytics, and visualisation. Proficient in MySQL, Linux scripting, HPC, and research data management. Currently completing an intensive Data Science & Machine Learning bootcamp at Ironhack, further refining technical and analytical skills. Seeking opportunities in data science, machine learning, or AI to drive innovation and impact.

WORK EXPERIENCE

10/2021 – 12/2024
Darmstadt, Hesse,
Germany

Technische Universität Darmstadt

Scientific Research Assistant

- Computed aqueous solubility of alkali halides using molecular dynamics simulation and Python, enhancing understanding of material behaviours.
- Automated data processing and analysis workflows by leveraging Python and Linux Bash scripts, increasing project efficiency.
- Mastered data visualisation and analysis with Matplotlib, Seaborn, and Excel, providing actionable insights for research projects.
- Supervised bachelor theses and managed research group website and high-performance cluster.

11/2019 – 10/2020
Bochum, Germany

Ruhr-University Bochum

Research Assistant

- Conducted simulations and data analytics on graphene-confined electrolyte solutions using GROMACS, contributing to advancements in material science.
- Interpreted complex simulation data to support research objectives, improving understanding of electrochemical systems.

EDUCATION

02/2025 – 04/2025
Berlin, Germany

Certificate

Ironhack ☑

Data Science and Machine Learning Bootcamp

07/2017 – 06/2019
Kanpur, India

M.Sc. in Chemistry

Indian Institute of Technology, Kanpur ☑

Final Grade: 9.71/10.0



07/2014 – 06/2017
Kolkata, India

B.Sc. in Chemistry

Ramakrishna Mission Vidyamandira

Final Grade: 9.37/10.0

PROJECTS

- 04/2025 **RAG Chatbot** 
- Successfully implemented a RAG system using OpenAI text embedding and GPT model.
- 04/2025 **Effect of Economic Indicators on Financial Market** 
- Successfully completed an end-to-end supervised machine learning project using state-of-the-art machine learning models.
- 04/2025 **Fracture Detection in Bone X-rays using MobileNetV2 & Transfer Learning**
- Developed a deep learning model to classify bone X-rays as fractured or non-fractured using MobileNetV2 and transfer learning for medical image analysis.

SKILLS

Data Science and Machine Learning:

Deep Learning · Computer Vision
· NLP · GenAI · RAG

Python Libraries

Numpy · Scipy · Pandas · Polars ·
NLTK · Scikit-learn · Tensorflow ·
Keras

Data Analytics

Matplotlib · Seaborn · Tableau ·
Streamlit

Scientific Skills:

Computational Chemistry,
Mathematics, Statistical Physics,
Numerical Simulation

Programming and Tools:

Python · SQL · Linux · Git · Bash

Soft Skills

Powerpoint Presentation,
Communication

LANGUAGES

English

Fluent

German

B1

Bengali

Native

Hindi

Native

PUBLICATIONS

- 2025 **Determination of Aqueous Solubility of NaCl in Molecular Dynamics Simulation using the Kirkwood-Buff Method**
- Manuscript submitted, under review

CERTIFICATIONS

UNICERT I - DEUTSCH

Arbeitskreis der
Sprachenzentren an
Hochschulen e.V. ID: 2101225011
German B1 Certificate

VOLUNTEER EXPERIENCE

- 10/2020 – 10/2020 **Diverbo**
- Frankfurt, Germany English Tutor
- Assisted non-native speakers in developing English language skills, enhancing cross-cultural communication abilities.