Kriti Alam

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Education

Ph.D. **University Of North Texas**, Chemistry

- GPA: 3.85
- **Coursework:** Computational Chemistry, Chemical Kinetics and Reaction Dynamics, Advanced Physical Chemistry, Machine Learning for Physicists, Statistical Physics, Advanced Inorganic Chemistry

M.Sc. **Indian Institute Of Technology, Jodhpur**, Chemistry

- CGPA: 7.5
- **Coursework:** Quantum Chemistry and Spectroscopy, Approximation Methods such as Hartree-Fock and post Hartree-Fock methods, Statistical Mechanics and Thermodynamics, Computational Chemistry, Soft Matter Physics, Organic and Inorganic Chemistry

Experience

August 2023 – Present Texas, USA
University of North Texas
Ph.D. Candidate — *Theoretical and Computational Chemistry*

- **Advisor:** Prof. Hsin-Yu Ko *September 2025*
  Focus: *Machine Learning Force Field Development for Polymer Structure Prediction, Kubernetes-based cloud computing, In-situ IR spectroscopy, Reaction Discovery for condensed-phase systems using localized orbitals*

- **Graduate Teaching Assistant** *2023–Present*
  Chemistry Resource Center (CRC): Assisted with general chemistry concept clarification; awarded **Best Teaching Assistant Award (Fall 2023)**.

  Teaching Assistant for Physical Chemistry II — Spring 2024 (**Supervisor: Dr. Omar Valsson**) and Spring 2025 (**Supervisor: Dr. Hsin-Yu Ko**).
  Laboratory Instructor for Physical and Organic Chemistry Labs — Fall 2024 and Spring 2025.

August 2023 – August 2025 Texas, USA
University of North Texas
Graduate Student — *Theoretical and Computational Chemistry*

- **Advisor:** Prof. Omar Valsson
  Focus: *Machine-learned Collective Variable Discovery to Drive Polymorphic Transition of Molecular Crystals*

September 2021 – May 2023 Jodhpur, India
IIT Jodhpur, Master's Student in Chemistry

- **Thesis Advisor:** Prof. Ananya Debnath
  Thesis: *Understanding lipid dynamics in model lipid bilayers under the influence of salts using Molecular Dynamics simulations*

Conferences and Schools

- Oral Presentation in the **American Chemical Society (ACS)-DFW Meetings in Miniature (MiM) at the Texas Wesleyan University** on April 2026
- Oral Presentation in the **American Chemical Society (ACS) Fall Meeting 2025** on August 2025 at Washington D.C.
- Oral Presentation in the **American Chemical Society (ACS)-DFW Meetings in Miniature (MiM) at the East Texas A&M University** on April 2025
- Oral Presentation at the **Texas Computational Chemistry Symposium, Texas Woman's University** on February 2025
- Participated in the **i-COMSE 7th Molecular Dynamics Summer School** at the **Boise State University**
  Experiences Covered: Python scripting for molecular dynamics from basics, LAMMPS, HPC
- Participated in the **Summer School Solvation Science (RESOLV)** at the **Ruhr University, Bochum, Germany**
  Experiences Covered: Hands-on workshops, seminars from leading researchers, problem-solving sessions