MOHAMMAD (MO) ABIDI

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EDUCATION

The University of Texas at Austin — Bachelor of Science, Chemical Engineering — May 2029
Minor: Business Foundations
Overall GPA: 3.57
Relevant Coursework: Intro to Chemical Engineering Analysis, Differential Equations with Linear Algebra, Engineering Physics I, II, Organic Chemistry I

EXPERIENCE

In-N-Out Burgers – *Store Associate;* Austin, TX — June 2024 – Present

- Preparing food across grill, board, and fry stations for 300+ orders per hour while maintaining speed and quality standards
- Managing back-of-house inventory for 40+ high-use food and packaging items, such as fresh produce, bags, fry boats, and boxes
- Coordinated cooking, prep, and backend restocking tasks across multiple stations per shift to maintain continuous service

PROJECTS

Photocatalysis of Water through MoS_2-CdS Heterojunctions & Interfacial Electronic Structure Modulation — March 2026 – Present

- Examining how MoS_2 electron accumulation, sulfur vacancies, and OH^--related surface reactions influence hydrogen evolution and overall water-splitting efficiency with calculations done with the Texas Advanced Computing Center (TACC)
- Evaluating the role of facet orientation, redox-potential alignment, and interfacial electronic structure modulation in improving photocatalytic performance with simulations of H_2O molecules and OH^- ions in ABINIT with Density Functional Theory (DFT)
- Studying the effects of sulfur vacancies, heterojunction dipoles, and water redox alignment on photocatalytic efficiency, including why the CdS/MoS_2 interface can outperform CdS alone for charge separation and reaction energetics

CHE 210 Ethanol Production Report — November 2025 – December 2025

- Researched ethanol production from corn feedstock through final purification, including the addition of α-amylase hydrolysis to break starch into fermentable sugars, which are then used to create alcohols to be used in fuel products
- Analyzed fermentation conditions affecting ethanol yield, including yeast performance, temperature control, choice of biological catalysts, distillation columns, side-stripping wells, beer wells, and sugar conversion efficiency
- Examined downstream purification limits caused by the ethanol-water azeotrope and studied molecular sieve dehydration used to achieve fuel-grade ethanol purity that is commercially available at gas pumps and powers industrial-grade vehicles

LEADERSHIP EXPERIENCE AND ACTIVITIES

Wang Materials Group – *Undergraduate Research Assistant;* Austin, TX — January 2026 – Present

- Working with graduate and post-doctoral students in refining research presentations for various international conferences
- Learning computational modeling techniques, including ABINIT and DFT, to study water-splitting reactions and photocatalytic material performance

Texas Ahlul Bayt Student Organization (ABSO) – *Logistics Co-Lead;* Austin, TX — August 2025 – Present

- Organizing initiatives to promote inclusivity within the Muslim population of The University of Texas at Austin
- Procuring necessary goods to carry out events, such as Ramadan dinners and supplies for community-building events
- Promoting awareness of Shi'a Muslims and providing a safe space for religious minorities within Islam

American Institute of Chemical Engineers – *Member* — August 2025 – Present

HONORS

- Valero Freshman Engineering Summit Scholar — Spring 2026
- University Honors — Fall 2025

ADDITIONAL INFORMATION AND SKILLS

Technical Skills: Python, ABINIT, Linux, Canva
Certifications: Lean 6 Sigma Yellow Belt (2025), CCPS Process Safety Fundamentals Certificate (2026)
Languages: Fluent in Spanish**,** Urdu, Hindi, Gujarati, Basic Knowledge in French, German, Italian, Russian
Interests: Narrative Analysis of Television (The Sopranos), Russian Literature, Bodybuilding, Existential Philosophy, Cooking
Work Eligibility: Eligible to work in the U.S. with no restrictions