Muan Li

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EDUCATION

China University of Petroleum – Beijing (Bachelor of Engineering)

Bachelor of Chemical Engineering of Energy — Sept. 2021-Jun.2025(expected)

- **GPA**: 4.12/5.00 **Average score**: 91.22 **Rank**:1/59
- **Course**: Chemical Thermodynamics(97), Chemical Reaction Engineering(93), Principles of Chemical Engineering(93), Petroleum Processing Engineering(92), Linear Algebra(97), Advanced Mathematics(95)

RESEARCH EXPERIENCE

Research on oxygen evolution reaction — Sep.2024-Jun.2025

Undergraduate research | Advisor: Prof. Yuqi Yang

- Synthesis of Ce/NiFe-LDH electrocatalysts and studied their performance for OER(170 mV@10mA cm^{-2}).
- Tested the catalyst stability using an AEMWE electrolyzer and investigated the relationship between the anion exchange membrane water electrolysis performance and operating temperature.
- Conducted DFT calculations to demonstrate the performance enhancement of the Ce/NiFe-LDH catalyst originates from the optimized adsorption capability of oxygenated species.

Composition design and performance optimization of heterogeneous Fenton catalyst — Aug.2023-Jan.2024

Independent study | Advisor: Prof. Junwei Hou

- A facile one-spot hydrothermal reaction is employed to co-precipitate Ag and Fe_3O_4 on active carbon fibers.
- Contributed to the generation of •OH and enhances the degradation capability of Ag@Fe_3O_4/ACF in the heterogeneous electro-Fenton system.

Research on electrochemical reduction of CO_2 electrode — Mar.2022-Jun.2023

Independent study | Advisor: Prof. Hui Ming

- Developed a simple strategy to synthesis a Cu-In bimetallic electrode based on carbon paper modified by carbon nanotube, significantly improving CO_2 reduction efficiency.
- Investigated the advantages, mechanisms, and related achievements of Cu-In/CP materials modified by functional groups for CO_2RR, with potential applications in industrial carbon conversion.
- Achieved the national-level approval for the Students Innovation Training Project in China.

INTERNSHIP EXPERIENCE

Dushanzi Petrochemical Branch of China National Petroleum Corporation — Jul.2023-Sep.2023

- Participated in the reforming hydrogenation and was involved in links, such as raw material processing, catalytic reaction control, and product quality monitoring.
- Involved in the liquid-liquid extraction unit management, optimized the separation process, and improved the recovery rate of valuable components such as benzene and toluene.
- Evaluated the heat exchange network and energy recovery system during the refining process and participated in implementing environmental emission control strategies.

AWARDS & HONORS

- **National Scholarship.** (2022, 2023, 2024, Top 0.2% nationwide, Highest Undergraduate Honors)
- National second and third prize of National English Competition for College Students. (2023, 2024)
- National third prize of National College Student Chemical Engineering Design Competition. (2023)
- National third prize of China International College Students' Innovation Competition. (2023)

SKILLS

- **Software and Tools**: Aspen Plus, PROII, Origin, Python, CAD, Cinema 4D, Avantage, Materials Studio, etc.
- **Language**: Mandarin Chinese (Native Speaker), English
- **Instruments**: Electrochemical Workstation, GC, FT-IR, UV-Vis, XRD, TEM.