

# FELIX ZHANG

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EDUCATION	<b>The University of Illinois at Urbana-Champaign</b>	Graduation: May 2024
	<b>Mechanical Engineering (B.S), Minor in Mathematics</b>	GPA: 3.94/4.00
	<b>The University of Texas at Austin</b>	Expected Graduation: May 2028
	<b>Mechanical Engineering (Ph.D.), Direction of Advanced Materials Science</b>	
EXPERIENCE	<b>CMI Summer Intern</b>	Ann Arbor, MI
	<i>Mechanical Engineering Department, REU Researcher</i>	May 2024-August 2024
	<ul style="list-style-type: none"><li>Investigate how the vitrimer responds to multiple thermal conditions and strain histories.</li><li>Test the shape memory effects of the vitrimer by utilizing distinct heat treatment methods and material setups.</li><li>Design two different shapes of the vitrimer hinges and justify that they have a bistable configuration.</li></ul>	
	<b>Stanford Summer Intern</b>	Stanford, CA
	<i>Electrical Engineering Department, POET scholar</i>	June 2023-August 2023
	<ul style="list-style-type: none"><li>Characterized basic M-I-M(metal-insulator-metal) structure of HfO<sub>2</sub> and HZO to obtain the values for permittivity and leakage current by analyzing the performance of 2-D materials.</li><li>Learned how to operate the Janis Probe Station to get the capacitance and leakage-current values. Used the Horiba LabRam HR Evolution System to obtain the Raman Shift Diagram.</li><li>Researched the relationship between different ALD conditions and EOT (Equivalent Oxide Thickness) values to compare 2-D material performance.</li><li>Presented to lab faculty which material was most suitable to replace silicon as a chip-making material based on each 2-D material's leakage current and capacitance values.</li></ul>	
	<b>Fluid Dynamics Research</b>	Champaign, IL
	<i>Mechanical Science and Engineering Department, Member</i>	July 2022- November 2023
	<ul style="list-style-type: none"><li>Simulated the change in air pressure and flow near a wall when turbulence is introduced to acquire real-world vs. theoretical data by building experiments in a wind tunnel.</li><li>Designed 3D parts using Fusion 360 and worked closely with local machine shops during manufacturing to ensure parts were within tolerance.</li><li>Identified urban heating effect patterns and conducted research on the key factors contributing to them.</li></ul>	
	<b>Sustainable Energy Research</b>	Urbana, IL
	<i>Mechanical Science and Engineering Department, Member</i>	March 2022- May 2022
	<ul style="list-style-type: none"><li>Compare the efficiency of different energy resources (wind, hydro, bio-fuel, etc.) utilizing thermodynamic principles.</li><li>Collaborate with Abbott Power Plant to explore different methods to improve the efficiency of energy usage in the ISR dormitory for a yearly saving of \$30,000.</li></ul>	
ACTIVITIES	<b>Senior Design Project</b>	Urbana, IL
	<i>Mechanical Engineering Department, Group Member</i>	January 2024-May 2024
	<ul style="list-style-type: none"><li>Design an oscillating controlled platform to generate vertical, pitch, and roll motions (3 controllable DOF).</li><li>Conducting static and vibrational load FEA and modal analysis on all custom parts.</li><li>Implement gyroscope measurements after performing numerical testing on the platform pitch and roll.</li></ul>	
	<b>American Society of Mechanical Engineers</b>	Champaign, IL
	<i>Product Design Team Member</i>	September 2021- Present
	<ul style="list-style-type: none"><li>Assisted other students in tackling technically challenging projects like computer-aided design and laser-machine using Fusion 360 and aPriori software.</li><li>Followed up on the 3D printing process from conception to a fully realized computer stand product in one semester.</li></ul>	
	<b>InSPIRE RSO</b>	Champaign, IL
	<i>Active Participant</i>	September 2021- Present
	<ul style="list-style-type: none"><li>Joined the project team to develop a solar-powered outdoor table (SPOT)</li><li>Assisted in hosting the outreach events each school year by setting up a public informational table during the Engineering Open House Day.</li><li>Taught middle school/upper elementary students the basics of engineering electrical systems to further develop their technical skills while promoting solar.</li></ul>	
SKILLS	<b>Engineering-related</b>	
	Python (Advanced), MATLAB (Advanced), Wolfram Mathematica (Advanced), Fusion 360, 3-D Printing, LaTeX, Microsoft Office, EES (Engineering Equation solver)	
	<b>Languages:</b> English (Proficient), Chinese (Proficient)	