

# Chase M. Enlowsmith

---

## CONTACT INFORMATION

Phone: 415 - 304 - 4967  
Email: [cenlowsmith@gmail.com](mailto:cenlowsmith@gmail.com)  
LinkedIn: [linkedin.com/in/chase-enlowsmith/](https://linkedin.com/in/chase-enlowsmith/)

## EDUCATION

**The University of Texas at Austin**, Austin, Texas Dec 2025  
Bachelor of Science in Physics & Astronomy  
• GPA 3.91  
• Relevant Coursework: Quantum Mechanics, Electrodynamics, Thermodynamics, Relativity, Astrophysics, Cosmology

## HONORS AND AWARDS

**Phi Beta Kappa**, Alpha of Texas chapter Feb 2025 – Present  
**University Honors**, University of Texas at Austin May 2023 – Present  
**Lightning Talk Competition - 2nd Place**, Applied Research Labs Jul 2025  
2025 Honors Scholar Lightning Talk:  
“*Machine Learning on Sound Speed Profiles to Characterize Ocean Variability*”

## PROFESSIONAL RESEARCH EXPERIENCE

**Applied Research Lab**, Austin, Texas Jun 2025 – Present  
Honors Scholar Intern  
• Engineered a machine learning pipeline to geographically cluster underwater acoustic data across basin scales.  
• Characterized ocean variability on decadal timescales, providing valuable insight into long-term ocean patterns.  
• Created a bespoke data-reduction methodology to optimize pipeline accuracy and efficiency beyond industry standards.  
• Innovating new machine learning approaches to predict acoustic features for tactical oceanography applications.  
• Authoring a manuscript to be published in peer-reviewed journals.

**Center for Gravitational Physics**, Austin, Texas Oct 2024 – Aug 2025  
Undergraduate Researcher  
• Designed and developed a data analysis pipeline to calculate galaxy redshifts from the Hobby-Eberly Telescope (HET) VIRUS-P Parallel Survey (VIPS) utilizing the Redrock API.  
• Provided the extracted redshifts from HET spectra for current comparative studies with gravitational wave-derived distance measurements to further investigate the Hubble tension.  
• Investigated how cosmological assumptions, the number of lines of sight, galaxy catalogue sparseness, and EM-signal availability all affect the Hubble constant posterior.

## RESEARCH PROJECTS

**Gravitational Lens Detection**, Austin, Texas Sep 2025 – Present  
• Developing a machine learning pipeline to accurately identify gravitationally-lensed galaxies within a sample of luminous red galaxies in the Kilo Degree Sky Survey data release 5.  
• Constructing a robust data analysis tool that first maps galaxy images into a statistical latent space via a variational autoencoder, and secondly applies a t-distributed stochastic neighbor embedding to capture new galaxy-lens candidates.

	<b>GW Data Sonification</b> , Austin, Texas	Oct 2025 – Dec 2025
	<ul style="list-style-type: none"> <li>• Constructed a command-line tool to download, visualize, and sonify gravitational wave events from GWOSC (Gravitational Wave Open Science Center).</li> <li>• Developed an open-source pipeline to extract black hole merger parameter distributions from LIGO, construct waveforms, and map into an audio format.</li> <li>• Constructed a Jupyter Notebook version for step-by-step execution to increase learnability.</li> <li>• Formed a detailed guide explaining pipeline usage and the theoretical physics of gravitational waves and their observation.</li> </ul>	
	<b>CMBverse</b> , Austin, Texas	Jun 2024 – Jul 2025
	<ul style="list-style-type: none"> <li>• Simulated Cosmic Microwave Background (CMB) power spectra utilizing the Cosmic Linear Anisotropy Solving System (CLASS) and graphically analyzed the impact of Lambda Cold Dark Matter (LCDM) model parameters.</li> <li>• Designed and published a website to display interactive graphs, improving accessibility for academic audiences within the Physics and Astronomy departments at the University of Texas at Austin and beyond.</li> </ul>	
LEADERSHIP AND COMMUNITY INVOLVEMENT	<b>Theta Chi Fraternity</b> , Austin, Texas	
	Scholarship Chair	Dec 2023 – Dec 2024
	<ul style="list-style-type: none"> <li>• Connected 40+ members with applicable scholarship opportunities, career events, and academic opportunities.</li> <li>• Oversaw academic performance and provided one-on-one career and academic assistance.</li> </ul>	
	Recruitment Captain	Dec 2023 – Dec 2024
	<ul style="list-style-type: none"> <li>• Coordinated recruitment events and outreach to potential new members.</li> </ul>	
UT MicroFarm	Austin, Texas	Apr 2023 – May 2024
	Volunteer	
	<ul style="list-style-type: none"> <li>• Worked with a team of volunteers to grow plants, manage the upkeep of community garden plots, and compost.</li> <li>• Contributed to producing dozens of pounds of fresh produce donated to the student food bank.</li> </ul>	
TECHNICAL SKILLS	Python, Matlab, Unix, LaTeX, Microsoft Office Suite, Google Suite, Data Analysis, Machine Learning	
LANGUAGES	English (Native), Spanish (Basic)	