

# Nicholas J. McClure

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## Research Interests

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- Time-domain astronomy and photometric variability in compact binary systems
- Accretion physics and outbursts in cataclysmic variables
- Applications of time-series analysis and machine learning in large survey datasets
- Asteroseismology and stellar evolution

## Education

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- **Texas Tech University**, Lubbock, TX  
B.S. in Physics (Astrophysics concentration), Expected Dec 2025
- **University of Texas at Arlington**, Arlington, TX  
B.A. in Music Composition, May 2022
- **University of North Texas**, Denton, TX  
B.S. coursework in Psychology, 2019–2020

## Research Experience

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- **Undergraduate Research Assistant**, Texas Tech University Jan 2024–Present  
Supervisor: Dr. Michael Fausnaugh
  - Conducted research focusing on NASA’s Transiting Exoplanet Survey Satellite (TESS).
  - Performed time-series analysis of TESS light curves and ground-based photometry.
  - Operated telescopes and executed hands-on observation at the Preston Gott Skyview Observatory in Shallowater, Texas.
  - Currently working on a program to standardize observation and research at the Preston Gott Skyview Observatory.

## Presentations

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- *Mysterious Modulations: TESS Insights into the Dwarf Nova AT2019muu*
  - Texas Section APS (TSAPS), Dallas, TX, Oct 2024
  - Sigma Pi Sigma Poster Symposium, Lubbock, TX, Nov 2024
  - 245th AAS Meeting, National Harbor, MD, Jan 2025
  - Texas Tech Undergraduate Research Conference, Apr 2025

## Teaching & Outreach Experience

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- **Lab/Learning Assistant**, Texas Tech University Jan 2025–Present
  - Facilitated instruction for Solar System and Stellar Astronomy laboratory courses, guiding students through observational exercises.
  - Assisted with on-site observational instruction using campus observatory equipment.

- Currently Assists in the instruction for Observational Astronomy, a Junior-level course.
- **STEM Educator**, Science Spectrum, Lubbock, TX Dec 2022–Mar 2023
  - Delivered interactive science demonstrations in astronomy and physics to public audiences.
  - Developed and created original curriculum to lead science camps and eclipse outreach events, one of which had over 800 attendees.
  - Traveled and organized outreach events to school districts in several areas, including Snyder, Ralls, Lubbock, Plainview and New Deal TX; Portales and Carlsbad NM, and others.
- **Private Tutor**, ClubZ! Tutoring Services Mar 2020–Dec 2021
  - Provided tutoring in mathematics and physics, tailoring sessions to individual student needs.
  - Consistently recieved 5-star reviews on instruction, with student grades significantly improving over my time as their tutor.
- **Go-Center Mentor**, UTA Go Center Aug 2020–Nov 2021
  - Mentored high school students on college applications and scholarship opportunities.
  - Organized FAFSA/TASFA events and other financial aid instruction.

## Professional Experience

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- **Retail Sales Consultant**, AT&T Mobility, Arlington, TX Nov 2021–Oct 2022
  - Built and maintained strong customer relationships, consistently exceeding sales targets for mobile devices, plans, and accessories.
  - Provided comprehensive technical support and product education to a diverse customer base, ensuring clear understanding and satisfaction.
  - Resolved customer inquiries efficiently, managing challenging situations with composure to achieve high customer satisfaction.

## Key Competencies

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- Customer Engagement and Support
- Scientific Communication
- Conflict Resolution and Problem-Solving
- Team Collaboration
- Sales and Upselling Strategies
- Adaptability and Learning Agility

## Honors and Awards

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- Menzel Undergraduate Research Scholarship, Texas Tech University, 2025
- Deans List, Texas Tech University, 2025
- Lab Assistant of the Week, Texas Tech University, 2025
- Bucy Undergraduate Scholarship in Physics, 2024

- 'Triple Threat' Award for outstanding sales in First Net, Fiber, and DirectTV, 2022
- Top salesperson for the month of May, 2022
- Class President, Gamma Nu chapter of Tau Beta Sigma, 2021
- Golden Gavel Award for Best Speaker in Cross-Examination Debate, 2019
- UIL Congress state qualifier, 2019
- UIL Cross-examination debate state octofinalist, 2017-2019
- Best Actor: UIL One Act Play district, bi-district, area competitions, 2019
- National Honor Society Vice President, 2019
- State Champion: UIL One Act Play, 2016

## Technical Skills

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- **Customer Service:** Salesforce, customer relations, product education, technical troubleshooting, money handling
- **Communication:** Public speaking, curriculum development, bilingual communication (if applicable)
- **Technical:** Python, LaTeX, CCD photometry, data modeling, telescope operation

## Relevant Completed Coursework

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- **Mathematics:** Calculus I–III, Differential Equations I–II
- **Physics:** Introductory Physics I–IV, Mechanics, E&M I–II, Quantum Mechanics, Computational Physics
- **Astronomy:** Observational Astronomy, Solar System Astronomy, Astrophysics I–II, Radio Astronomy

## Professional Affiliations

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- Society of Physics Students (SPS), Member, 2023–Present
- College of Arts and Sciences Undergraduate Research Academy (CASURA), Member, 2024–Present
- American Astronomical Society member/presenter, 2024–Present
- American Physical Society member/presenter, 2024–Present
- Gamma Nu chapter of the Tau Beta Sigma service sorority, 2021-2022
- University of Texas at Arlington Marching Band, 2021
- University of Texas at Arlington Concert Band: Section Leader, 2021-2022
- UIL Cross-examination Debate, 2017-2019
- UIL One Act Play, 2016-2019
- UIL Congress, 2019