

## EDUCATION

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- **University of Texas at Dallas** Class of 2021  
*B.S. Physics, Minor in Music* GPA: 3.871

## HONORS

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- **Eugene McDermott Scholar** - One of twenty-three undergraduates selected for UTD's flagship scholarship; traveled to Santa Fe, Austin, and Washington, D.C. for leadership training; studied classical guitar in Valencia, Spain
- **Collegium V Honors Student** - Took advanced coursework in math, political science, and liberal arts

## PHYSICS & ASTRONOMY EXPERIENCE

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- **University of Texas at Dallas: Physics Department** 2020  
*Teaching Assistant*
  - Set up and led the undergraduate lab component for Electromagnetism & Waves (PHYS 2126)
  - Taught curriculum that builds up DC and elementary AC circuitry from first principles
- **UTD Cosmology, Relativity, and Astrophysics Group** 2017 - 2018  
*Research Assistant*
  - Numerically treated the General Relativistic three-body problem of inspiraling binary black holes subject to a third perturbing black hole with hopes to explain underlying dynamics of LIGO measurements
  - Cataloged stellar photometry data from *Gaia* to help facilitate an exoplanet survey led by citizen-scientists
- **Advanced Research in Thermo Fluid Systems Lab** 2019  
*Research Assistant*
  - Measured and catalogued fluid properties of hundreds of samples bovine and human milk
  - Developed models to describe how fat globules affect the velocity-dependent viscosity of various milks
- **Society of Physics Students** 2017 - present  
*Astronomy Committee Member*
  - Coordinated large-scale star parties at UTD for major astronomical events, including 2018 & 2019 total lunar eclipses, 2018 opposition of Mars, and 2020 pass of NEOWISE, collaborating with the Texas Astronomical Society
  - Co-led telescope training sessions, exposing community members to a variety of amateur telescopes

## PRESENTATIONS & PROJECTS

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- **Stellar Spectroscopy**, end-of-semester project for 4373 Physical Measurements Lab (in progress)
- **Quantum Electrodynamics**, term paper for PHYS 4352 Concepts of Modern Physics (in progress)
- **Coriolis & Centrifugal Forces**, presented at the Graduate Students in Physics Seminar on September 25th, 2020
- **Pappus's Theorem**, presentation for MATH 3321: Geometry, summer 2020
- **Ballistic Entry: Monte Carlo Simulation**, presentation for PHYS 3330: Numerical Methods, fall 2019
- **Musical Physics**, presented at the Graduate Students in Physics Seminar on October 5th, 2018
- **Explaining the Solar Analema**, an end-of-semester paper for PHYS 3380: Astronomy, fall 2018

*Please visit my [physics page](#) to see more of my work.*

## TECHNICAL SKILLS

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- **Languages:** Python, HTML,  $\text{\LaTeX}$  (intermediate proficiency); MATLAB, SQL (elementary proficiency)
- **Technologies and Frameworks:** Anton Paar Rheometry & Density Interfaces, Meade and Celestron telescopes

## AFFILIATIONS

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- **Texas Astronomical Society**, 2018-present
- **American Physical Society**, Division of Astrophysics, Division of Gravitation, Texas Section, 2020-present

## MUSIC & ACOUSTICS EXPERIENCE

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### Freelance Musician

- *Bass guitar, piano, guitar* *2016 - present*
  - Perform with **Addis** (a jazz/world group), New Age/world musician **Stephen Houpt**, the C3 Big Band (contemporary jazz), the **Squirrelheads** (an old-time stringband), Banks and Co. (a southern soul band), and **Strictly Tablue** (an electric blues band).
  - Studied with Russell Jackson (B.B. King), Brian Mulholland (Maynard Ferguson), and James Driscoll (Doc Severinsen); shared stage with the likes of Todd Mosby, Reggie Thomas, Jim Suhler, Steve Miller, Tony Baker, Josh Hanlon, Kelly Durbin, and Austin Zhang
  - Play solo jazz piano at private parties, weddings, corporate events, etc.

### Custom Chimes

- *Acoustician* *2018 - present*
  - Handcraft and custom-tune wind chimes and chime trees of solid-bar and tubular varieties
  - All proceeds benefit the North Texas Food Bank

### Helbing Jazz Initiative

- *Coordinator* *2018 - 2019*
  - Coordinated monthly jam sessions following monthly jazz masterclasses led by Stockton Helbing
  - Promoted musical dialogue between community members through the language of jazz

## RECORDINGS & PROJECTS

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- **Jazz Guitar** (in progress), 2021
- **Orphan Girl** (in progress), 2020
- **Ode to Friends**, 2020
- **The Power of Small Things**, 2020
- **Blues in June**, 2020
- **Straight Eighths**, 2019
- **Light on the Mountain**, 2019
- **Strictly Tablue**, 2019
- **Search for Answers**, 2018
- **White Rock Lake**, 2018

## NOTABLE PERFORMANCES

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- **Advanced Jazz Improvisation Masterclass with Todd Mosby**, Eisemann Center, January 23rd, 2020
- **C3 Big Band**, The Free Man, album release party, January 6th, 2020
- **Addis featuring Austin Zhang**, Shebelle, January 4th, 2020
- **The Chirag Gokani Trio**, Jonsson Performance Hall, November 21st, 2019
- **Greg Waits Jazz Refugees**, The Balcony Club, October 3rd, 2019
- **Stephen Houpt & Chirag Gokani**, The Taos Inn, July 16th, 2019
- **Strictly Tablue**, Poor David's Pub, album release party, May 17th, 2019
- **Steve Miller**, St. Mark's School of Texas, March 15th, 2015

*Please see my **calendar** for a full list of performances.*

## COMMUNITY ENGAGEMENT

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### IntelliChoice

- *Branch Manager & Instructor* *2018 - present*
  - Directed IntelliChoice SAT Summer Camp (2018-2020), valued at \$297,000/year, boosting students' SAT scores by factors of ~1.5 and significantly increasing college matriculation rates in the underprivileged community
  - Led volunteer efforts at the Vietnamese Community Center, tutoring math weekly to underprivileged students

### Richardson Public Library

- *Volunteer* *2017 - 2019*
  - Assisted circulation by pulling hold items for patrons
  - Assisted teaching technology classes for adults and creative writing classes for children