

# Chirag Gokani

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## EDUCATION

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- **University of Texas at Dallas** Class of 2021  
*B.S. Physics, Minor in Music* GPA: 3.864
- **St. Mark's School of Texas** Class of 2017  
*High School Diploma* GPA: 4.14

## RESEARCH & TEACHING EXPERIENCE

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- **University of Texas at Dallas: Physics Department**  
*Teaching Assistant* January - May 2020
  - 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
  - One of three undergraduate students to hold a Teaching Assistantship in the department
- **Advanced Research in Thermo Fluid Systems Lab**  
*Research Assistant* February - August 2019
  - 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
  - Gained skill at operating rheometers, density meters, and creatinometers, as well as exposure to SQL
- **UTD Cosmology, Relativity, and Astrophysics Group**  
*Research Assistant* June 2017 - December 2018
  - 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
  - Catalogued stellar photometry data from *Gaia* to help facilitate an exoplanet survey led by citizen-scientists
- **Society of Physics Students**  
*Astronomy Committee Member* November 2017 - present
  - Coordinated large-scale star parties at UTD for major astronomical events, including 2018 & 2019 total lunar eclipses, 2018 opposition of Mars, and 2020 transit of Mercury, collaborating with the Texas Astronomical Society
  - Co-led telescope training sessions, exposing community members to a variety of amateur telescopes

## TECHNICAL SKILLS

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- **Languages:** Python, MATLAB,  $\text{\LaTeX}$ , HTML
- **Technologies and Frameworks:** Anton Paar Rheometry & Density Interfaces, Meade and Celestron telescopes

## PRESENTATIONS AND PROJECTS

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- **Ballistic Entry: Monte Carlo Simulation**, project for PHYS 3330: Numerical Methods, fall 2019
- **Musical Physics: Combination Tones and Binaural Beats of the Heavens**, presented at the Graduate Students in Physics Seminar on October 5th, 2018
- **Explaining the Solar Analemma**, an end-of-semester paper for PHYS 3380: Astronomy, fall 2018

## VOLUNTEERING

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- **IntelliChoice**  
*Branch Manager & Head Instructor* January 2018 - present
  - Led volunteer efforts at the Vietnamese Community Center, tutoring math weekly to underprivileged students
  - Directed IntelliChoice SAT Summer Camp (2018-2020), valued at \$297,000/year, boosting students' SAT scores by factors of  $\sim 1.5$  and significantly increasing college matriculation rates in the underprivileged community
  - Wrote and graded original, self-guided worksheets covering Algebra I & II, Geometry, and Precalculus topics

## HONORS

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- **Eugene McDermott Scholar** - One of twenty-three undergraduates selected for UTD's flagship scholarship; travelled 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 mathematics, political science, and liberal arts; working on honors thesis on jazz fusion