

JOHN HENRY CRUZ

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EDUCATION

University of Texas, College of Natural Sciences

May 2022

Degree Candidate for Honors Bachelor of Science and Arts in Math

Cumulative GPA: 3.4 Science GPA: 3.2

Polymathic Scholars Honors Program

Spring 2019 – Present

Student in the Honors Program, Peer Mentor for Freshmen Polymaths

- Created a field of study called Factors of World Values, to take courses to examine variations in distinctive cultures
- Study cultures transition from industrial to post-industrial societies and variety of factors influence different people
- Analyze society's views and ideologies on life, specifically looking at survival versus self-expression values
- Mentoring new students and community building through outreach with various seminars, socials, and discussions

RESEARCH EXPERIENCE

University of Texas Big Data in Biology Research Lab

Spring 2019 - Present

Researcher, Social Media(Instagram)

- Time series analysis of transcriptomic data from A. burtoni transitions and house finch development to identify target genes
- Analyze large datasets on gene expression and phylogenetic relationships to attempt to characterize expression
- Run the Instagram page for the stream for science outreach to share computational biology research happening on campus

Auburn University NSF REU in Computational Biology

Summer 2019

Research Intern

- Conduct research on sexual dimorphisms in response to endocrine disruptors using the model system drosophila
- Use bioinformatics tools and coding to organize and analyze data and create visualizations
- Partake in the Auburn University Bioinformatics Bootcamp, practicing scripting and using bioinformatic tools

WORK EXPERIENCE

Peer Learning Assistant

Spring 2019 - Present

Peer Learning Assistant for BIO 311C (Introductory Biology I)

- Facilitate learning of the material through explaining questions and explaining practice problems
- Instructed material to students in weekly office hours and have them come in and ask questions on challenging concepts
- Taught review sessions for each exam and create informative presentations on the biology topics

First Year Interest Group Mentor

Fall 2019 - Present

University of Texas Peer Mentor

- Meet weekly with 25 freshmen and mentor them on their academic and extracurricular goals throughout the year

ORGANIZATIONS

Tau Kappa Epsilon Fraternity – Gamma Upsilon

Spring 2019 - Present

Active Member, Cryosophyos(Treasurer), Social Media Chair (Instagram)

- Raise money through on campus activities for our official philanthropy, St. Jude Children's Research Hospital
- Create and manage chapter budget for activities and prepare accurate monthly financial reports
- Run the Instagram page for the fraternity to spread the word of our activity in and outside the community

Healing with Harmonies

Fall 2018 - Present

Volunteer Cellist

- Performs short concerts for nursing homes, rehabilitation centers, and hospices and different campus events
- Philanthropic goals for the community through musical fundraising

SKILLS

Programming

Proficiency with Python, R, CLI, Experience with Excel, Bash, C, IGV

Courses (Research/Lab Techniques)

Scientific Inquiry: Imaginative, Intro to Computational Biology, Intro to Probability and Statistics, Intro to Lab Experiments in Biology, Biostatistics, Computational Biology and Bioinformatics, Genetics

HONORS AND AWARDS

University of Texas University Honors

Fall 2018