

# JOHN HENRY CRUZ

jhec.819@gmail.com • 832-782-7523 • <https://johnhenrycruz.netlify.app/>

## EDUCATION AND HONORS

### The University of Texas at Austin, College of Natural Sciences

*Bachelor of Science and Arts Honors in Computer Science*

*Certificates: Applied Statistical Modeling, Evidence and Inquiry*

*University Honors: Fall 2018, Fall 2019, Fall 2020, Spring 2021*

*Cumulative GPA: 3.57*

Expected May 2022

Austin, TX

### Polymathic Scholars Honors Program

January 2019 – Present

*Student in the Honors Program, Peer Mentor for Freshmen Polymaths*

- Created a field of study called Words Speak Louder Than Actions, focusing on the idea of language analysis in Psychotherapy
- Research how sentiment and phonetic analysis could be used in a psychotherapy setting to better understand a client
- Pursue Evidence and Inquiry Certificate with courses from Psychology, Computational Linguistics, and Computer Science
- Mentor new students and community building through outreach with various seminars, socials, and discussions

## EXPERIENCE

### The University of Texas at Austin, Pennebaker Language Lab

September 2020 – Present

*Undergraduate Researcher*

Austin, TX

- Analyzed Zoom Transcripts for relationships between talking speed and hesitation with different psychological dimensions
- Studied survey and Reddit data concerning COVID-19 using LIWC, MEM, and other computational linguistics tools (NLTK)
- Predicted and interpret major themes and feelings during the pandemic such as Masks through statistical models and PCAs
- Developed dictionaries on different psychological dimensions and created text datasets for the new version of LIWC.

### The University of Texas at Austin, Jessy Li Computational Linguistics Lab

August 2021 – December 2021

*Undergraduate Researcher*

Austin, TX

- Built and trained different baseline models to categorize different texts to a distinct sentiment
- Developed Amazon Mechanical Turk tasks using JavaScript and HTML for annotations of emotions in COVID-19 data
- Scraped and Analyzed COVID-19 data from support subreddits and 16 cities subreddits for emotional triggers

### Northwestern University, Creative Cognition Lab

June 2021 – July 2021

*Summer Research Opportunity Program (SROP) Research Intern*

Evanston, IL

- Developed algorithmic methods to automate the scoring process of AUT Metrics to tackle subjectivity with human scoring
- Coded these methods using Python, semantic spaces, and clustering methods to calculate novelty, originality, and flexibility
- Presented findings and methods at the culminating Northwestern SROP Research Symposium

## SKILLS

**Programming Languages:** Python, R, SQL, Java, JavaScript, C, C++

**Big Data & Machine Learning:** Scikit-learn, PyTorch, NLTK, ggplot2, tidyverse, dplyr, numpy, pandas, scipy, matplotlib

**Data Science & Miscellaneous Technologies:** A/B testing, Data science pipeline (cleansing, wrangling, visualization, modeling, interpretation), Tableau, Statistics, Time series, Experimental design, Hypothesis testing, APIs, Excel, Git, Beautiful Soup, Selenium

## PROJECTS

### GateVis: Agnostic Service Mesh and Visibility Tracing

May 2021

- Designed a service mesh architecture that tracks sources of requests using an additional “gateway” proxy to log metric data
- Deployed EC2 Instances in AWS and wrote Iptables rules to reroute requests between proxies where data was stored
- Developed a Metrics Visualizer web application to provide a GUI interface where requests information could be viewed

### LinkedIn Skill Scraping Project

June 2020

- Scraped LinkedIn job posting descriptions using Beautiful Soup and Selenium and analyzed what skills and tools were most sought out for in Data Scientist using Python and the NLTK Library

### Analysis of Stanford Open Policing Project

April 2020

- Generated meaningful insights on a portion of the Stanford Open Policing Project to study associations seen between races and different police stop responses using R and different packages such as ggplot, tidyverse, and dplyr

## ORGANIZATIONS

### Tau Kappa Epsilon Fraternity – Gamma Upsilon Chapter

January 2019 – December 2020

*Active Member, Past Cryosophylos (Treasurer), Past Social Media Chair (Instagram)*

Austin, TX

- Coordinated philanthropy events raising thousands for St. Jude Children’s Research Hospital and Meals on Wheels
- Designed and manage a chapter budget for events and activities alongside prepare accurate financial documentation
- Organized Province Forums where 10+ chapters attended to develop networking skills and financial literacy