

JOHN HENRY CRUZ

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EDUCATION AND HONORS

The University of Texas at Austin, College of Natural Sciences

Bachelor of Science and Arts Honors in Computer Science

May 2022

Austin, TX

Certificates: Evidence and Inquiry

Polymathic Scholars Honors Program

January 2019 – May 2022

Student in the Honors Program, Peer Mentor for Freshmen Polymaths

- Created a field of study called Computational Psychotherapy, focusing on the idea of language analysis in Psychotherapy
- Researched how sentiment and phonetic analysis could be used in a psychotherapy setting to better understand a client
- Thesis Link: <https://repositories.lib.utexas.edu/handle/2152/114246>
- Mentored 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 – May 2022

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