# Christina Chance

Natural Language Processing · Fairness & Ethics · Machine Learning
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## EDUCATION

**University of California at Los Angeles**                        2022 – Present
Ph.D. in Computer Science                                          GPA: 3.85
*Eugene V. Cota-Robles Fellow.* Advisor: Prof. Kai-Wei Chang

**Emory University**                                               2018 – 2022
B.S. in Computer Science and Mathematics, minor in Physics         GPA: 3.75
*Magna Cum Laude.*

## RESEARCH EXPERIENCE

**UCLA Natural Language Processing Lab**                        September 2022 – Present
*Graduate Student Researcher, advised by Prof. Kai-Wei Chang*

⋆ **Will the Prince Get True Love's Kiss? On the Model Sensitivity to Gender Perturbation over Fairytale Texts [under review]**
  · Showed model sensitivity to gender perturbed fairytale text suggesting gender and stereotype bias present in the model finetuned on the FairyTaleQA dataset.
  · Proposed a novel method for Counterfactual Data Augmentation (CDA) using the power of Large Language Models (LLMs) to support a more robust domain of text.
  · Conducted a series of tests and found improved performance on gender perturbed text when finetuned on a combination of the original and perturbed training sets.

⋆ **CORAAL QA: A Dataset and Framework for Open Domain Spontaneous Speech Question Answering from Long Audio Files [under review]**
  · Co-curated a dataset of extractive questions and audio time spans from the Corpus of Regional African American Language (CORAAL) dataset.
  · Helped design and implement a framework for spontaneous speech question-answering information retrieval task.
  · Leveraged LLMs to generate further training examples and assessed the quality and usability of the generated examples.

⋆ **An Analysis of Large Language Models for African American English Speaking Children's Oral Language Assessment [under review]**
  · Evaluated the performance of open-source automatic speech recognition systems (Whisper, HuBERT, Wav2Vec2) for the transcripts of primarily African-American English-speaking children.
  · Investigated a diverse set of metrics to assess AAE children's speech for educational use to avoid biases around variations of the dialect compared to Standard American English.
  · Showed the capability of non-standard educational speech metrics to capture comprehension accuracy.

⋆ **Machine Learning Research Transparency through Positionality Statements [under review]**
  · Argued the impact and importance of positionality statements in ML papers to provide transparency to the readers.
  · Suggested a framework to include more reflexivity in the research process and provided instances where positionality statements benefit the intellectual community in qualitative fields.

**Arnold Lab at Emory University**                                August 2021 – August 2022
*Undergraduate Research Assistant/ Honors Thesis, advised by Prof. Dorian Arnold*

⋆ **Zoom Audio Transcription Accuracy for African American Vernacular English**

**Bhasin Systems Biomedicine Lab at Emory University**            August 2020 – August 2021
*Undergraduate Research Assistant/ Honors Thesis, advised by Dr. Manoj Bhasin*

- ⋆ **TCRQuant**
  - · Assisted in implementing TCRQuant online tool to support analysis of t-cell receptor sequencing; translated command-line tool to run on the public server using PHP, Javascript, R, and web developing and styling tools.
- ⋆ **Gene Splicing Database**
  - · Created a gene splicing database to support data around the splice junctions in pediatric patients with Acute Myeloid Leukemia

## WORK EXPERIENCE

**Google LLC**                                                                                    May 2021 – August 2021
*Software Engineering Intern, advised by Danny Qiu and Nolan Eastin*

- Designed and implemented a feature to provide Google Cloud Storage customers with the ability to further protect their data by asymmetrically encrypting their Customer Supplied Encryption Key with a JSON payload using Java, Python, and C+.
- Utilized Tink, an open-source encryption library, and customer documentation to provide users with an approachable and improved encryption process.

**Google LLC**                                                                                    May 2020 – August 2020
*Student Training in Engineering Program Intern, advised by Sergei Karseko and Lian Wu*

- deated, designed, and executed Covidiena, a web application for university students during the COVID pandemic to track health and stay updated with their school announcements and information.
- Implemented user authentication using HTTP Sessions and hashing to ensure individualized user experiences and allow multiple users using Cloud Datastore.

**Google LLC**                                                                                    May 2019 – August 2019
*Engineering Practicum Intern, advised by Filipe Ribiero and Tongfei Guo*

- Created a system that generates simple explanatory summaries of top contributions to a change in metrics utilizing past data, differing dimensions, and relative metrics of interest with Python and GoogleSQL.
- Constructed backend that generated complex SQL statements based on performance metrics and manipulated data to perform trend analysis.

## TEACHING EXPERIENCE

- Teaching Assistant for UCLA CS30 (Principles and Practices of Computing), Fall 2023, taught by Prof. Todd Millstein. I worked with a team of 1 other TA and about 120 students, helped grade assignments, led a weekly discussion section, and hosted office hours to support students.

- Teaching Assistant for Emory University CS377 (Database Systems), Spring 2022, taught by Prof. Nosayba El-Sayed. I worked with a team of 1 other TA and about 40 students, helped grade assignments, and hosted office hours to support students.

## COMMUNITY ENGAGEMENT

- Institute for African-American Mentoring in Computing Sciences Mentor, 2023 - Present.

- ACM SIGKDD KDD 2023 Equity, Diversity, Inclusion Day Workshop Co-Organizer and Panelist.

- ACM FAccT 2023 Volunteer.

- Graduate Women in Computer Science at UCLA Treasurer and Executive Board Member, 2022 - Present.

- Black Graduate Student Alliance at UCLA Historian, 2022-23

- Black & Latinx in STEM at Emory University Co-Founder and President, 2019-22.

## PROFESSIONAL AND ACADEMIC AFFILIATIONS

- Hartford Youth Scholars, Cohort 7.

- Ron Brown Scholars Captain, 2018.

- Girls for Technology, 2017-22.

- Initiative for Maximizing Student Development (IMSD) Scholar, 2020-22.

- Emory's Scholarly Inquiry and Research at Emory (SIRE) Program, 2020-21.

- Alpha Sigma Chapter of Eta Sigma Pi, Spring 2020 Initiate.

- Emory University's Circle of Omicron Delta Kappa, Spring 2020 Initiate.

- Nu Alpha Chapter of Alpha Kappa Alpha Sorority Incorporated, Spring 2021 Initiate.

- Emory University's Chapter of Alpha Psi Omega, Spring 2022 Initiate.

## AWARDS

- Eugene V. Cota-Robles Fellow, awarded by UCLA 2022-27.

- 100 Senior Honorary, awarded by Emory University 2022.

- Computer Science Outstanding Student of the Year, awarded by Emory University 2022.

## RELEVANT COURSEWORK

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|---|---|
| **Undergraduate** | Data Structures and Algorithms, Database Systems, Intro to Data Justice, Machine Learning Algorithms Artificial Intelligence, Analysis of Algorithms, Linear Algebra |
| **Graduate** | Deep Learning, Natural Language Processing, Mathematical Aspects of Scientific Computing: Linear Algebra, Fairness & Accountability in Natural Language Processing |

## SKILLS

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|---|---|
| **Programming** | Python, PyTorch, SQL, Java (proficient) PHP, MATLAB, HTML (basic) |
| **Extra-curricular** | Vibez Caribbean Dance Troop (performer and member 2018-22) Theater (Stage manager for two productions at Emory University, 2021 and 2022) Track & Field (Three-year varsity athlete, 2015-18) |