

Jamie Gonzalez

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EDUCATION

DUKE UNIVERSITY

Bachelor of Arts in Computer Science
Bachelor of Science in Psychology

Durham, NC
Expected May 2025

BARBARA GOLEMAN SENIOR HIGH SCHOOL

Summa Cum Laude, AP Capstone Diploma, AP Scholar with Distinction

Miami, FL
Aug 2017 – Jun 2021

TECHNICAL & RESEARCH EXPERIENCE

TECHNICAL PROJECTS

- **Data Analysis & Visualization** | Python – Investigated the global economic impact of illness using data-wrangling techniques to clean & merge diverse datasets. Conducted comprehensive data analysis, identifying correlations & variations across nations. | R – Conducted thorough analysis on a vast dataset, crafting visualizations pinpointing demographic factors affecting men's self-perception of masculinity.
- **Huffman** | Java | Created a program utilizing Huffman coding algorithms to compress digital data efficiently.
- **Autocomplete** | Java | Implemented a program that incorporates binary search to create an autocomplete function based on weighted prefixes.
- **DNA** | Java | Created Linked Lists to model recombinant DNA accurately.
- **Markov** | Java | Developed a Markov process leveraging HashMaps, simulating random text generation based on training data, using algorithms for data-focused tasks.

DATA & COGNITIVE SCIENCE RESEARCHER, Duke University

Project: “Improving Data Visualization With Cognitive Science”

Durham, NC
Apr 2024 – Present

Team Leader: Dr. Jana Schaich Borg

- Employ cognitive tools (eye-tracking, surveys, interviews) to evaluate & enhance data visualization practices based on audience perception & cognitive processing insights.
- Develop & test new data visualization approaches that intentionally deviate from conventional “best practices” to determine their impact on user comprehension & trust.
- Analyze our data to draw conclusions about the cognitive processing of visual information & investigate the potential of online eye-tracking for future Explainable AI projects, particularly in areas such as medical decision-making & AI fairness.

RESEARCH ASSISTANT, Duke University

Duke Identity & Diversity Lab (Social Psychology)

Durham, NC
May 2023 – Present

Principal Investigator: Dr. Sarah Gaither

- Collect & analyze qualitative and quantitative participant data, assist in writing comprehensive literature reviews, & transcribe & code data to extract valuable insights supporting the lab's studies and research findings.
- Recruit participants for 6 ongoing studies conducted at the lab, ensuring diverse enrollment & representative data collection. Facilitate effective communication between parents, children, & the lab, fostering a supportive & collaborative environment throughout the research process.

AI RESEARCH INTERN

Center for AI & Digital Policy

Washington, D.C.
Jun 2024 – Aug 2024

- Conducted in-depth research on AI technologies & the training of LLM models to inform & shape policies, bills, & laws that promote ethical & fair AI practices.
- Provided technical expertise on AI models for drafting memos & formal complaints regarding AI use.
- Analyzed privacy & data protection issues, and engaged in legislative oversight to ensure adherence to democratic values & fundamental rights.

STUDENT RESEARCHER, Duke University
Vertical Integration Program | Duke Early Experience & the Developing Brain Lab
Mentors: Dr. Michael Gaffrey & Armen Bagdasarov, M.A.

Durham, NC
May 2023 – Jul 2023

- Conducted in-depth research investigating the intricate relationship between EEG microstates & anxiety-related temperamental traits in infants.
- Analyzed resting-state EEG data using Cartool, MATLAB, and k-means clustering to process, interpret, and conduct microstate analysis. Performed statistical analysis & data visualization in R to assess the efficacy of microstate analysis in identifying infants' brain networks.
- Designed, set up, & managed the GitHub repository utilizing HTML to optimize accessibility & guide researchers with clear, concise, step-by-step instructions for proficiently conducting EEG microstate analysis.

WEB DEVELOPMENT & GRAPHICS TEAM, Duke University
The Standard – Duke's Premier Digital Publication

Durham, NC
Oct 2022 – Present

- Assist in the website design, development, & maintenance & handle appearance & technical issues for seamless user experience & up-to-date content, demonstrating a keen understanding of product functionality and the perspective of the end-user.
- Create visually engaging graphics for the publication's Instagram & website, boosting audience engagement & growth.

WEB DEVELOPMENT & ARCHIVAL RESEARCH INTERN, Duke University
Franklin Humanities Institute

Durham, NC
May 2022 – Jul 2022

- Developed an engaging & interactive website using HTML & CSS to showcase the rich history of Latinx students at Duke, resulting in increased user engagement. The website's design facilitated ongoing exploration of the subject matter, utilized by Duke professors to enhance their teaching & research initiatives.
- Conducted archival research to ensure accurate & comprehensive documentation of the physical *Nuestra Historia, Nuestra Voz* exhibit in the Chappel Family Gallery.

RESEARCH PRESENTATIONS & POSTERS

Gonzalez J, Bagdasarov A, Gaffrey M. Temperamental Correlates of EEG Microstates in Infants.
Duke Department of Psychology & Neuroscience Vertical Integration Program Poster Session; July 2023; Durham, NC.
[View Poster](#)

Gonzalez J, Hang C, Li X, Liao M, Montalvan N. Ethical Implications of AI in Healthcare.
Duke Department of Computer Science CS342: Technical and Social Analysis of Information and the Internet, Prof. Owen Astrachan; April 2024; Durham, NC.
[View Poster](#)

OTHER EXPERIENCE

TEACHING ASSISTANT, Duke University
Duke Department of Service Learning

Durham, NC
Aug 2022 – May 2023

- Service Learning Assistant for Dr. Joan Clifford's Spanish 306 "*Health, Culture, & the Latinx Community*" course.
- Provided individualized support to students, enhancing their service learning experience & promoting community engagement & cultural awareness. Facilitated collaboration between 4 community partners & students.
- Oversaw all service learning components of the class, including project planning, coordination, & evaluation. Created spreadsheets to track & analyze student data & performance, providing valuable insights for enhancing their service learning experience.

STUDENT LAB ASSISTANT, Duke University
Sampson, Fecci, & Noor Laboratories

Durham, NC
Oct 2021 – May 2022

- Assisted within the Department of Neurosurgery Brain Tumor Immunotherapy program & the evolutionary genetics lab.
- Provided valuable support to the laboratory staff & actively contributed to the successful setup & sterilization of lab equipment.

SKILLS & RELEVANT COURSEWORK

PROGRAMMING LANGUAGES & TECHNIQUES:

- Python, Java, R, C, HTML, CSS, SQL, MATLAB, Excel, Microsoft Word & Powerpoint, Web development, user research