

PAULINA GONZALEZ OROZCO

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EDUCATION

Lehigh University — Bethlehem, PA

August 2021 - May 2025

Bachelor of Science in Population Health, Minors: Biostatistics, Probability, and Statistics GPA: 3.76

Study Abroad: CIEE Summer Comparative Public Health Systems II + III

June - August 2023

INTERNSHIP EXPERIENCE

Public Health Intern

Program for Appropriate Technologies for Health, Geneva, Switzerland

February - May 2025

- Forecast demand and identifying target pricing for Tranexamic Acid and Misoprostol.
 - Develop a machine learning pipeline using CatBoost to predict antibiotic prescription and delayed hospitalization from real-world pediatric health data in the TIMCI study, overcoming extreme class imbalance and facility-level clustering while engineering complex clinical outcome variables.
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RESEARCH EXPERIENCE

AI Research Assistant

Interpretable Machine Learning Public Health Project, Bethlehem, PA

January 2024 - June 2025

- Develop predictive models in Python for non-invasive Alzheimer's detection, leveraging eXplainable AI (XAI) techniques to ensure interpretability and transparency, using the DARWIN dataset.
- Analyze datasets from the National Alzheimer's Coordinating Center (NACC) and Alzheimer's Disease Neuroimaging Initiative (ADNI) to identify key predictors and improve diagnostic tools for Alzheimer's disease.

Qualitative Research Assistant

Center of Gender Equity, Bethlehem, PA

August 2023 - May 2025

- Co-designed the "Culture and Postpartum Experiences Interview Study" with Fauzia Saiyed, PhD, from proposal development through IRB approval to manuscript writing.
- Lead recruitment efforts and currently conducting interviews, transcription, and substantive theory-building.

Technology Research Assistant

CityGuide App, AT for ASD, Bethlehem, PA

August - December 2024

- Designed and analyzed a user satisfaction survey focusing on Mobile and Pervasive Assistive Technologies (MPATs).
- Assisted in pilot trials of CityGuide, a beacon-based navigation app for individuals with disabilities.

STEM-SI Research Fellow

STEM-SI, Lehigh University, Bethlehem, PA

May 2024 - August 2024

- Conducted a literature survey on assistive technologies for individuals with Autism Spectrum Disorder (ASD) during the transition to adulthood.

Quantitative Research Assistant

Pennsylvania SDOH Data Index Project, Bethlehem, PA

September 2022 - May 2023

- Created a community-level data repository measuring infections and chronic diseases to inform public health decision-making.

Global Social Impact Fellow

Autism Screening and Training in Africa (ASTIA), Bethlehem, PA

January - December 2022

- Developed culturally appropriate autism spectrum disorder screening tools and conducted extensive fieldwork in Sierra Leone for pilot testing and market
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PUBLICATIONS AND PRESENTATIONS

Publications

- **Gonzalez, P.**, Namboodiri, V., & Wakeel, F. (2024). *Technologies for transition: A survey of assistive technologies for individuals with Autism Spectrum Disorder (ASD) during the transition to adulthood*. (Under review).
- Ho, N. T. N., **Gonzalez, P.**, & Gogovi, G. K. (2025). *Writing the signs: An explainable machine learning approach for Alzheimer's disease classification from handwriting*. *Healthcare Technology Letters*, 12(1), e70006. <https://doi.org/10.1049/htl2.70006>
- **Gonzalez, O. P.**, & Gogovi, G. K. (2025). Explainable machine learning-based Alzheimer's disease prediction. In *Health Informatics and Medical Systems and Biomedical Engineering*. Springer Nature Switzerland. <https://www.springerprofessional.de/en/explainable-machine-learning-based-alzheimer-s-disease-prediction/50899536>
- Hernandez, S. E., **Gonzalez, P.**, & Yellamelli, N. (2023). Faculty-driven student engagement in community-engaged projects: An undergraduate perspective. *Journal of Community Engagement and Scholarship*, 15(2), Article 13. <https://doi.org/10.54656/jces.v15i2.509>

Presentations

- Annual Biomedical Research Conference for Minoritized Scientists (ABRCMS), 2024
- World Congress in Computer Science, Computer Engineering, & Applied Computing (CSCE'24), The 10th International Conference on Health Informatics & Medical Systems (HIMS'24), 2024
- Lehigh University College of Health Research Symposium, 2022, 2023, 2024
- Global Health Learning Lab, Lehigh Valley Health Network, 2022
- Engagement Scholarship Consortium (ESC), 2022

TEACHING EXPERIENCE

Teacher Assistant

Creative Inquiry, Lehigh University, Bethlehem, PA

January - December 2023

- Mentored students in interdisciplinary projects aimed at achieving systemic change and social impact.
- Supported grant and proposal writing, conference applications, and manuscript reviews.
- Graded assignments on long-term financial planning and sustainable development.

RELEVANT PROJECTS

Health Data Analysis for Ischemic and Coronary Heart Disease

Course: MATH 338/STAT 438: Linear Models in Statistics

May 2024

- Analyzed healthcare cost drivers and predicted 10-year coronary heart disease risk using insurance claims (788 records) and cardiovascular study datasets (4,000+ records).
- Built regression models using feature selection techniques like stepwise regression and LASSO in SAS.

Spatial Analysis of U.S. Maternal and Child Health and Abortion Policies

Course: EPI 308 Spatial Epidemiology

December 2023

- Analyzed the relationship between abortion policies, socioeconomic factors, race/ethnicity, and maternal/infant health outcomes using datasets from HRSA, KFF, and the Guttmacher Institute.
- Conducted spatial analysis with ArcGIS Pro and statistical modeling in Python to identify policy-outcome associations and visualize disparities in reproductive health access.

Effect Modification in Asthma Intervention Studies

Course: EPI 396: Environmental Epidemiology and Exposure Science

May 2023

- Evaluated the impact of an air filtration device on asthma outcomes in children using double-blind crossover study data.

- Applied Linear Mixed Effects Regression (LMER) in R to explore interactions between intervention effects and demographic/biological variables.

LEADERSHIP AND ACTIVITIES

Student Senate

Health, Safety and Wellness Committee, Bethlehem, PA

August 2023 - December 2024

- Organized events to enhance campus health services and promote student wellness.

Equity Representative

Center for Gender Equity, Bethlehem, PA

August 2023 - December 2024

- Lead data-driven projects and fundraising initiatives to support the Saint Luke's Nurse-Family Partnership.

College of Health Student Advisory Council

Bethlehem, PA

March 2022 - December 2024

- Promoted the College of Health through blog posts, articles, and networking events.

Tutor

CSO, America Reads/Counts, Bethlehem, PA

September 2021 - December 2023

- Assisted elementary school students with reading and mathematics.

Volunteer

Clinica de Terapia Educacional, Guatemala City, Guatemala

May - June 2022

- Supported educational therapy for individuals with intellectual disabilities.

AWARDS AND HONORS

- Class of 1904 Scholarship for character and leadership potential — May 2024
- Honor's Capstone — May 2024
- Dean's List: Fall 2021/2022, Spring 2022/2023/2024
- COH Global Social Impact Fellowship Assistance Grant — March 2022
- College of Health Dean's Scholarship — August 2021

SKILLS

Languages: Spanish (Native), English (Fluent), French (Beginner)

Computer Skills: Microsoft Office, ArcGIS Pro, R, Python, Java, SAS

Certifications: Conflict Transformation, CITI Program: Social and Behavioral Research, Student Success Mentor Training