Natalia Morales

Saint Paul, MN / USA | +1 612 490 4642 | nmorale1@macalester.edu | LinkedIn | Portfolio

EDUCATION

MACALESTER COLLEGE | SAINT PAUL, MN / USA   *Bachelor of Arts Expected May 2026*
Data Science Major/Political Science Major   *3.61 GPA*
Awards: UWC Davis Scholar, Chuck Green Fellow, Kofi Annan Scholarship, Dean's List
Study Abroad: Leiden University College The Hague
Relevant coursework: Statistical Machine Learning, OOP & Abstraction, Linear Algebra, Empirical Research Methods, Data-Driven Governance, Nuclear Energy Security Studies, CAAC and CRSV as a tactic of war, Literary Publishing, Geography of World Urbanization, Urban Politics of Latin America, Political Economy of Development, Anticorruption Public Policy Analysis

PROJECTS

STATISTICAL MODELING | *Feature-Based Clustering of Madonna's Billboard Hits Using PCA and Hierarchical Methods*
- Analyzed 48 Madonna songs from the Billboard Top 100 using hierarchical clustering on 11 Spotify audio features; identified 7 distinct musical clusters capturing variations in danceability, energy, acousticness, and valence.
- Applied PCA to reduce dimensionality; found that the first 2 principal components explained ~36% of total variance, highlighting tempo and valence as key contributors to song popularity.
- Created and interpreted heatmaps, dendrograms, and PCA loadings plots to uncover stylistic groupings, including high-energy dance tracks and theatrical outliers forming singleton clusters.

STATISTICAL MODELING | *Content Categorization and Viewer Behavior: A Statistical Examination of YouTube Genres*
- Conducted a comprehensive analysis to identify key factors contributing to YouTube channel success, including the influence of category and content type.
- Developed insights into strategies for improving audience engagement, visibility, and understanding of digital media trends.

SHINY APP DEVELOPMENT | *Deforestation and political shifts in Brazil (2000–2023)*
- Built an interactive Shiny App using shapefiles at national, state, and municipal levels to analyze Brazil's tree cover loss (2000–2023) alongside political shifts.
- Created a custom dataset of Brazilian presidents and political leanings; integrated it into an interactive plot linking annual deforestation trends to presidential administrations.
- Developed dynamic maps and time-series visualizations, including a year-selectable tree cover map (2000, 2010, 2020) and rolling-average loss plots by state.

EMPIRICAL RESEARCH | *Perceived Suitability of Democracy in Jordan*
- Examined the strongest factors affecting a person's opinion on the suitability of democracy for Jordan.
- Wrangled a dataset of 13219 observations to create and organize the final dataset consisting of 2024 observations.
- Conducted Chi-squared tests and Spearman's Rank Correlation tests to establish a relationship and its nature between different factors and the suitability of democracy while controlling for age and gender.

EMPIRICAL RESEARCH | *Women and Policymaking in Guatemala and El Salvador*
- Examined the correlation between increases in female representation post-civil war and the rise in legislation benefiting marginalized groups, using data from Guatemala and El Salvador.

VIDEO GAME DESIGN | *Snakey: An implementation of Tkinter and GUI programs into video game creation*
- Designed a Snake and Apple game using Python's Tkinter, incorporating GUI design, global variables, and user interaction through movable objects.
- Created an equivalent to the Snake and Apple game on Java, incorporating Kilt Graphics and java.util in different classes.

CONSUMPTION ANALYSIS | *Annual Personal Consumption of Coffee*
- Modeled annual coffee consumption as a two-variable linear function of age and sleep using realistic coefficients; visualized output with 3D plots in Mathematica.
- Applied Riemann sums and integrals to estimate lifetime consumption (12,000 cups from ages 18–70) and calculate average yearly intake (230 cups for ages 30–50).
- Used symbolic and numerical integration to quantify lifetime and period-specific consumption patterns; illustrated accumulation with a concave integral curve and computed average values over defined age intervals.

PUBLISHING | *Moonsprout: A literary garden*
- Collaborated with a team of 11 to produce and publish a multi-genre literary anthology over a 4-month semester, launched at a public event with ~60 attendees.
- Edited 6 of 11 submissions (including poetry, prose, and novel excerpts) and contributed to final copyediting for the full collection.

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● Designed the front and back covers; supported print production and distribution of 100+ physical copies across Macalester College.

WORK EXPERIENCE

COPAL MN | CHUCK GREEN FELLOW *May - July 2025*
● Co-authored and helped present two project proposals that contributed to securing $40,000 in donor and grant funding.
● Audited and cleaned data from 100+ grant applications, updating records in EveryAction to improve database accuracy.
● Designed and launched a Google Sites webpage to showcase a key organizational project.
● Interviewed 30+ staff and community members and transformed their stories into data-informed narratives aligned with organizational metrics.

MACALESTER COLLEGE FACILITIES SERVICES | *Office Assistant* *September 2022 – Present*
● Provide customer service to 100+ customers by phone, email, or in person to provide information.
● Follow detailed directions to complete daily paperwork and computer data entry, including 5+ daily van reservations, 20+ master keys access, and 10+ invoices.
● Complete clerical tasks such as developing, filing, and distributing physical and electronic mail to 20+ employees in the office.

MACALESTER COLLEGE | *Reservations Assistant* *Summer 2023, 2024, and 2025*
● Booked and organized 50+ events per term on campus through EMS Software.
● A/V assistance for events such as conferences, summer camps, and keynote speakers with 200+ attendees.
● Maintained and organized key and card access records for 500+ visitors using Excel spreadsheets, ensuring accurate data entry and efficient tracking.

LEADERSHIP & PROFESSIONAL DEVELOPMENT

MACALESTER ADELANTE! STUDENT ORGANIZATION | *President* *May 2023 - May 2025*
● Led and organized 15 board meetings per semester.
● Coordinate 1-2 cultural events per month, monitor the $8000+ budget, and delegate tasks to 10 board members.
● Collaborate with other student organizations and external actors, such as academic departments and institutions, to provide students with opportunities like internships and project support.

SKILLS

SOFTWARE & TOOLS: Github | Microsoft Office | Adobe | Google Suite | Canva
PROGRAMMING LANGUAGES: R & R Studio | Plotly | Shiny | Python | Java | LaTeX | Mathematica
LANGUAGES: English | Spanish | French