

# Morayo Adeyemi

🌐 morayodanielle.com ✉ morayoadeyemi2c@gmail.com 📞 224-619-6944 **in** morayoadeyemi 📄 danielle34

## Education

---

### Howard University

Aug 2025 – May 2026

*M.S. in Applied Data Science and Analytics*

- **Concentration:** Business Analytics & Product Management | **GPA:** 4.00/4.00
- **Leadership:** Co-Director Public Interest Technology Research ; Strategic Lab Partnerships Coordinator.

### Howard University

Aug 2022 – May 2025

*B.S. in Computer Science, Minor in Mathematics*

- **Honors:** Summa Cum Laude (GPA: 3.89/4.00) | Graduated in 3 years | Karsh STEM Scholar (Full Tuition).
- **Societies:** Tau Beta Pi, Society of Women Engineers, Google Tech Exchange Scholar (2024).

## Research Experience

---

### Howard University CADSA & Ohio State University Consortium

Sep 2025 – Present

*Graduate Researcher / Lead Developer (Maternal Health AI)*

Washington, DC

*Advisor: Dr. Amy Yeboah Quarkume*

- Collaborating with clinical stakeholders (obstetricians, care providers) to architect a conversational AI agent designed to triage postpartum emergencies and reduce maternal mortality risks in Ohio, California, and DC.
- Engineering an affect-aware NLP pipeline capable of analyzing the emotional valence of postpartum women to detect distress markers; implementing a human-in-the-loop triage system that bridges immediate AI support with professional medical intervention.
- Leading the end-to-end full-stack development and UI/UX design, creating an accessible, low-latency interface optimized for resource-constrained environments to ensure equitable access to local healthcare resources.

### Massachusetts Institute of Technology (MIT Media Lab)

June 2025 – Present

*Visiting Researcher – Multisensory Intelligence Lab*

Cambridge, MA

*Advisor: Dr. Paul Liang*

[\[Summer Poster\]](#) [\[Fall Poster\]](#)

- Co-designed a multimodal AI framework with speech-language pathologists, utilizing identity embeddings and computer vision to generate personalized therapy scenes. Indexed a 2M+ story corpus using sentence embeddings, enabling semantic retrieval of context-aware narratives aligned with daily-life scenarios.
- Engineered a latency-aware generation pipeline (Python, React) to mitigate attention loss during inference. Implemented scoped generative editing and image segmentation using Qwen2.5-VL and Google Veo 3, allowing children to interact with partially rendered content via multi-stage inference.
- Established a clinical benchmark to evaluate neurodiversity-affirming personalization, comparing outputs on metrics of facial realism and cultural fit. Conducting international user studies to validate engagement improvements for an upcoming publication.

### University of Delaware & Howard University

May 2025 – Dec 2025

*Graduate Researcher / Research Software Engineering Intern*

Virtual

*Advisor: Dr. Rajni Goel*

- Simulating the economic effects of algorithmic bias on marginalized communities by analyzing how predictive-policing and risk-assessment systems disproportionately influence long-term financial and social outcomes.

### Howard University Mathematics Department

Jan 2025 – May 2025

*Undergraduate Researcher*

Washington, DC

*Advisor: Dr. Timothy Myers*

[\[Paper\]](#) [\[Presentation\]](#)

- Investigated the weighted second moment of elevated Motzkin paths and their relationship to central Delaunoy numbers. Derived closed-form summation expressions to compute the average squared distance between exponents in polynomial encodings, utilizing modular arithmetic and nested summations.

### Howard University & Adobe Research

Aug 2024 – Jun 2025

*Student Researcher (HCI & Computer Vision)*

Virtual

*Advisors: Dr. Franck Derroncourt & Dr. Ryan Rossi*

[\[Paper\]](#)

- Built "CoPalette," a lightweight pipeline that combines landmark-guided skin-tone extraction, facial-emotion blending, and seasonal context to generate personalized color palettes in real time.
- Curated and modeled 10,000+ runway images with SegFormer segmentation and a feed-forward network, cutting perceptual color error ( $\Delta E$ ) from  $\approx 51$  to 17.

- Delivered an application validating that generated palettes align with expert stylist recommendations, demonstrating a framework for inclusive, interpretable fashion technology.

### Stanford University

Undergraduate Researcher, Computer Science Department

Advisors: Dr. James Landay & Parker Ruth

Jun 2024 – Aug 2024

Stanford, CA

[\[GitHub\]](#) [\[Poster\]](#)

- Developed predictive models (Linear Regression, K-Nearest Neighbors, CNN) for blood-pressure estimation using tonometer data (Python, Computer Vision).
- Improved KNN model performance by 30% through K-means clustering, grouping similar pulse shapes to enhance predictive reliability.
- Identified a 35% accuracy gap between real-world tonometer data and simulated data, providing critical insights to refine noninvasive blood-pressure monitoring techniques.

### Howard University

Undergraduate Researcher, Computer Science Department

Advisor: Dr. Anietie Andy

Jan 2023 – May 2025

Washington, DC

[\[Paper\]](#)

- Leveraged Large Language Models (LLMs) to analyze Reddit posts from anxiety-related forums, extracting features such as inferred age, gender, and personal identifiers to detect patterns in self-reported mental health statuses.
- Developed workflows for data parsing and feature extraction using Python and Java, enabling computational analysis to uncover behavioral insights via advanced NLP techniques.

### Brown University

Undergraduate Researcher, Computer Science Department

Advisors: Dr. Daniel Ritchie & Aditya Ganeshan

Jan 2023 – Dec 2023

Virtual

[\[Poster\]](#)

- Participated in the Google Research x Brown University ExploreCSR program ("Socially Responsible AI for Computational Creativity").
- Developed a system to audit geographic representation in indoor scene datasets using CLIP-space Set-Similarity scores, identifying significant bias toward Eurocentric interiors.
- Awarded **1<sup>st</sup> Place** at the Brown University Computer Science Research Symposium for the project: "*How Biased Is Your Dataset? Using VLMs to Audit Geographic Representation.*"

## Publications & Presentations

---

**Adeyemi, M.,** Adenew, A., Fennell, H., Johnson, A., Myers, T., Nguendang, P., Olayinka, M., Paxton, C., & Williams, M. (2025, March). *New Occurrences of the Central Delannoy Numbers in  $Z_2[x]$  and Related Generalized Second-Order Lattice Path Set Moments.* Poster presented at the **56<sup>th</sup> Southeastern International Conference on Combinatorics, Graph Theory & Computing (SEICCGTC)**, Boca Raton, FL.

**Adeyemi, M.,** Ruth, P., & Landay, J. (2024, November). *Methods of Blood Pressure Predictions for Noninvasive Sensors Tonometry Data.* Poster presented at the **Annual Biomedical Research Conference for Minoritized Scientists (ABRCMS)**, Pittsburgh, PA.

Tonge, N., Michaels, P., Hernandez Ortiz, J.M., Kalejaiye, O., Fawole, O., Adhikari, B., **Adeyemi, M.,** Smith, D., Doku, R., Burge, L., & Andy, A. (2024). *Disclosure of Anxiety Concerns on Social Media: Do Concerns Vary by Age and Forum?* (Manuscript in preparation/Under Review).

**Adeyemi, M.,** Galvez-Cepeda, D., Dodson, S., Ganeshan, A., & Ritchie, D. (2023). *How Biased Is Your Dataset? Using VLMs to Audit Geographic Representation in Indoor Scene Datasets.* Poster presented at the **Brown University Computer Science Research Symposium**, Providence, RI.

## Industry Experience

---

### The Walt Disney Company

Graduate Associate, Decision AI & Decision Science

Jan 2026 – Present

Orlando, FL

- Conduct internal AI consulting across Disney World Resorts, developing applied decision-AI frameworks to support teams in integrating AI into operational and strategic workflows.

### Google

Software Engineer Intern

Summer 2023, Fall 2025

Mountain View, CA

- **Photos Team (Fall 2025):** Enhanced photo recommendation systems using contextual clustering and user location embeddings to improve personalized user experiences (Java, Python).
- **Ads Smart Alerting Team (Summer 2023):** Built a backend system for real-time Ads crash tracking, improving incident response and client reliability (C++, Python).

## Leadership & Service

---

### Tech for Change (Public Interest Technology)

Aug 2025 – Present

Research Advisor & Grant Lead

- Lead grant writing strategies to secure funding for student research initiatives; advise six undergraduate researchers on projects at the intersection of AI and sustainability.
- Facilitate bi-weekly technical workshops and oversee symposium presentations for civic-tech projects.

### CEA Student Council | Vice President

May 2024 – May 2025

- Managed a record-breaking operating budget of \$130,000 to fund initiatives for 1,000+ students across the College of Engineering & Architecture.
- Led a 34-member council to execute large-scale programming, including the \$7k ELEVATE Book Scholarship and the "Apply-a-Thon" career series.
- Advocated successfully for the College's first 4+1 Engineering Master's program, coordinating administrative support across all departments.

### BisonBytes Hackathon | Founder & Director

Mar 2023 – May 2025

- Successfully pitched and established Howard University's first student-run CS hackathon, leading a 30-member organizing team to direct full-scale operations for the 2024 and 2025 iterations.
- Self-raised \$170K+ by leveraging personal industry connections to secure partnerships with 30+ companies including Microsoft, Google, HRT, Workday, and Roblox.
- Delivered a 45-hour event yielding 60+ projects across AI, Education, Health, and Gaming tracks with 150% YoY growth; designed and deployed the platform at [bisonbytes.org](https://bisonbytes.org) to manage 30,000+ engagements and sponsor relations.

**Other Roles:** President, Tech for Change (2024); Undergraduate Head, CEA Decanal Board (2024); Academic HUB Director (2023).

## Awards & Achievements

---

- **Student Ambassador**, Center for Applied Data Science and Analytics, Howard University, Aug 2025.
- **Vision Award** — Nominated by Howard University Engineering faculty & students, Apr 2024.
- Presented poster at the **PIT-UN Convening**, Boston University, 2023.
- **Excellence Award** — Nominated by Howard University Engineering faculty & students, Apr 2023.
- **1<sup>st</sup> Place, Research Track**, ExploreCSR Projects, Brown University CS Research Symposium, 2023.
- Winner, **X4 Hackathon**, 2023.
- **Karsh STEM Scholar**, Howard University, Cohort 6 (2022).

## Public Engagement

---

### Public Interest Technology University Summit – San José, CA

Nov 2024

- Workshop Host: "Best Practices for Fundraising" | Conference Speaker: "Fundraising for Public Good"

## Teaching

---

### Howard University

Teaching Assistant, CSCI 470 Fundamentals of Algorithm

Aug 2024 – Dec 2024

Washington, DC

### Howard University

Teaching Assistant, CSCI 100 Introduction to CS (Google in Residence)

Aug 2024 – Dec 2024

Washington, DC

### National Society of Black Engineers

Volunteer SAT Tutor

Dec 2022 – May 2024

Washington, DC

## Department Service

---

### Strategic Outreach & Digital Communications Lead

Center for Applied Data Science and Analytics (CADSA)

Aug 2025 – Present

### Member, Decanal Search Committee (Sole Undergraduate Rep.)

Howard University — College of Engineering & Architecture

Aug 2024 – Jun 2025

## Skills

---

**Languages:** Python, Java, C++, C, JavaScript, SQL, Dart, Lua

**Technical Skills:** PyTorch, TensorFlow, Hugging Face Transformers, OpenCV, Unity, Google Cloud, Colab

**Leadership Skills:** Strategic Planning, Team Management, Public Speaking, Fundraising, Community Building