Kianna Hendricks

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Education

2023—2025	**M.S.**, Data Science and Engineering
	Thesis Title: Integrative Approaches to Classify High-Dimensional Omics Data Using Machine Learning and Neural Networks
	Advisor: Dr. AKM Kamrul Islam
	North Carolina A & T State University
	Coursework: Data Processing, Data Analytics and Engineering Applications, Computational Modeling, Molecular Biomodeling
2020—2022	**B.S.**, Economics
	North Carolina A & T State University

Research Experience

2023—2025 — **Master's Thesis**

Data Science and Engineering, North Carolina A&T State University

- Utilizing explainable AI tools and ensembling to enhance classification in proteomics, metabolomics, and transcriptomics data
- Applying ML and dimensionality reduction to improve classification accuracy
- Classifying COVID-19 severity and human developmental stages for interpretable insights from complex omics datasets
- **Technologies used:** Python

Course-Based Research Projects

2024 — **Molecular Docking of HIV Biomarkers with Drug and Peptide-Based Treatments**

CSE 885: Molecular Biomodeling, North Carolina A&T State University

- Conducted molecular docking simulations using AutoDock to model interactions between drug candidates and HIV-1 protease
- Employed the Lamarckian Genetic Algorithm and AutoDockTools for molecule preparation
- **Technologies used:** PyMol, AutoDock, ProteinPlus

2023—Present — **Association Between Kidney Disease and Depressive Disorders Among US Adults**

DSC 495: Epidemiology: Big Data for Disease & Disparities, North Carolina State University

- Utilizing 2021 and 2022 BRFSS cross-sectional study data to explore the link between CKD and depressive disorders
- Applying logistic regression with complex survey design to adjust for sampling weights and key confounders
- Analyzing sociodemographic and health factors, including age, race, comorbidities, and smoking status
- **Technologies used:** RStudio

Research Interests

Machine Learning | Omics | Explainable AI | Prediction Modeling | Regression Analysis

Manuscripts Under Development

Hendricks K., Rhinehardt, K., Moradi, H., Lasisi, T., Bikdash, M., Islam, A. K. M. K. 2024. High-Precision COVID-19 Severity Prediction Using Dimensionality Reduction and Multi-Omics Data. *Authorship order not finalized.*

Hendricks K., Rhinehardt, K., Moradi, H., Lasisi, T., Bikdash, M., Islam, A. K. M. K. 2024. Late Fusion of GNNs for Predicting Human Brain Development Stages from Transcriptomics Data. *Authorship order not finalized.*

Work Experience

2024—Present	**AI, Data Science, and Engineering Intern**
	Diem
	• Enhancing onboarding flows by implementing "Diem 101", ensuring a consistent generated response from OpenAI for new users
	• Modifying OpenAI models and constants to refine prompting strategies
	• Improving CMS functionality by enhancing system performance, refining the user interface, and optimizing accessibility and efficiency
2024—2025	**Python and Data Science Tutor**
	Self-Employed
	• Tutoring students from high school to graduate level in data science topics, including time-series analysis, web scraping, exploratory data analysis, Python fundamentals, and Excel-based regression analysis
	• Emphasizing practical applications to enhance understanding of complex concepts, resulting in improved assignment grades and positive student feedback
2022	**Front-end Development Intern** in App UI (User Interface) Dev Team
	Activision Blizzard
	• Implemented new grid design layout on My Call of Duty website
	• Updated and maintained My Call of Duty's codebase, addressing issues tracked in Jira
	• Technologies used: React Native

Grants, honors & awards

2024	Taco Bell Foundation Ambition Accelerator Seed Prize Winner, ($500)
2024	DoSomething EMBER Collective, ($250)
2023	2nd Place (Undergraduate Cohort) in COVID Information Commons Student Paper Challenge, Columbia University, ($300)
2023	Sanofi Next Gen Scholarship
2023	Woodland Hall Fellowship, North Carolina A&T State University, ($16,000)
2022	AWS Artificial Intelligence and Machine Learning Scholar

Speaking Engagements

2024   Student Research Symposium, Northeast Big Data Innovation Hub, **Featured Presenter**
2024   "Master of Indecision: Is Grad School for Me?" February Chat Noir, Rewriting the Code
        Black Wings, **Panelist**

Membership in Professional Societies

Society of Women Engineers
Black Women in Computational Biology

Skills

- **Machine learning/Deep Learning:** — exploratory data analysis, data visualization, ensembling techniques, imbalanced data techniques, neural networks (MLPs, CNNs, GNNs), image classification, natural language processing (tokenization, sentiment analysis)
- **Statistical Techniques:** — linear and logistic regression analysis, hypothesis testing, multivariate analysis
- **Bioinformatics:** — molecular docking simulations (AutoDock), protein structure visualization (PyMol, ProteinPlus)
- **Development skills:** — front-end development (React.js/React Native, JavaScript), interactive web applications (Streamlit), version control (Git), cloud computing platforms (AWS)
- **Programming languages & Software:** — Python (advanced), R (intermediate), Tableau (beginner)

References

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