Christine C. **Amuzie**

Data Scientist · Data Engineer

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Skills

Statistical analysis in R, Python, SPSS · Supervised and unsupervised ML · Parallel massive data batch processing in HDFS (Hadoop) · ML/AI for NLP · Database management using Jupyter, BigQuery, Oracle, SQL · QGIS mapping · SDLC for APIs, 3rd party connectors, and SDKs · Quantitative analytical skills for electoral targeting · Big data management in open source and proprietary NoSQL distributed database systems · Data visualization in Tableau, R, GSuite, Python · Content creation and online marketing · Expertise in biomedical research · 250k USD laboratory budget management · Biostatistics and bioinformatics

Relevant Experience

National Domestic Workers Alliance, Care in Action 501(c)(4)

Washington, DC

Data Engineer and Coordinator — *2020 - Present*

- Devise data visualization and reporting strategies for nationwide campaigns
- Develop APIs and data engineering solutions through scrum and agile project management
- Utilize algorithmic targeting strategies to reach ideal voter base of low-propensity women of color
- Formed Strategic Data Team, a collaborative partnership between Tech, Data, and Digital Teams to develop unified codebase and internal ticketing system
- Own data warehouse management, 3rd party data vendor relationships, NGP VAN relational database, SmartVAN campaigns and voter file access

Communications Workers of America, AFL-CIO, CLC

Washington, DC

Data Scientist and Specialist — *2020 - 2021*

- Built Leadership Development Pipeline data warehouse and algorithm by integrating nationwide data in a seamless ETL to CRM software
- Developed and administered data collection systems for integrating data from field and digital campaigns
- Worked across departments and with vendors to integrate the flow of information across organizing tools and other systems used by CWA
- Aided the creation, planning, testing, and deployment of custom labor organizing CRM software

The University of Texas MD Anderson Cancer Center

Houston, TX

Research Assistant II — *2017 - 2018*

- Mined NCBI RNA-Seq database for EMT-associated differential expression in kras-driven non-small cell lung cancer
- Created Next-Generation Sequencing Analysis Workflow of novel RNA-Seq Gene Expression Data in R
- Collected clinical measurements from patients in lung cancer early detection clinical trial
- Utilized Oracle Advanced Analytics to invoke machine learning algorithms in Python interface
- Delineated analytic queries for Oracle Database System

University of Texas Medical Branch

Galveston, TX

Graduate Research Assistant — *2015 - 2017*

- Utilized Texas Advanced Computing Center (TACC) supercomputer clusters for virtual screening, drug library design, and molecular dynamics simulations
- Prototyped Python-based high-throughput screening tools and software for structure-based drug design (SBDD) and structure-activity relationship (SAR) analysis
- Adapted MATLAB-based high-throughput lipidomics data analysis ETL pipeline for large MALDI imaging datasets from R CRAN software package

Johns Hopkins University School of Medicine

Baltimore, MD

Graduate Researcher and Laboratory Technician — *2012 - 2015*

- Investigated biomarkers of cardiovascular disease using label-free quantitative mass spectrometry
- Developed laboratory SOP, technical documentation, internal code repository, and high-throughput lipidomics data analysis ETL pipeline in MATLAB
- Collected, combined and cleaned large metabolomic datasets
- Implemented statistical tools (R, GraphPad Prism, SPSS) to conduct regression analyses and analyze decomposition of variance (ANOVA, ANCOVA, etc)

Education and Training

Change the Game 501(c)(4)

Richmond, VA

2020 Change the Game Academy Trainee — *2020*

- Training: voter targeting, database and list management, strategizing for the progressive data community
- Project: Developed winning campaign strategy for Ohio Region 02

Baylor College of Medicine — *Houston, TX*

Fellow, Human Genome Sequencing Center — *2018 - 2020*

- Training: genomics, bioinformatics, grant-writing, molecular cell biology
- Research: somatic genome editing with AAV-CRISPR

University of Texas Medical Branch — *Galveston, TX*

Ph.D. Coursework in Pharmacology and Toxicology — *2015 - 2017*

- Training: computational pharmacology, drug discovery, structural biology and molecular biophysics
- Research: neuropsychopharmacology

Johns Hopkins University — *Baltimore, MD*

M.Sc. Coursework in Biotechnology and Applied Biomedical Engineering — *2013 - 2015*

- Training: Bioinformatics; High-throughput screening and automation; bioengineering innovation and design
- Research: conjugate-assisted cardiovascular drug delivery

Georgia Institute of Technology — *Atlanta, GA*

B.Sc. in Biology — *2007 - 2012*

- Research: Controlled release for nerve regeneration; analysis of sphingolipids in inflammation
- Honors Thesis: "Spectromic Analysis of Sphingolipids in RAW 264.7 Cells on Indium-Tin Oxide Slides Reveals Activation of Inflammatory Pathways"

Honors & Awards

2021	**Black in Data Representative,** Society of Motion Picture and Television Engineers AI Task Force	*Los Angeles, CA*
2020	**Organizer,** Black in Data Week, Black in AI, BlackInX Network	*International*
2015	**Recipient,** NIH (NHLBI) Research Supplement to Promote Diversity in Health-Related Research	*Bethesda, MD*
2014	**Recipient,** NIH (NHLBI) Research Supplement to Promote Diversity in Health-Related Research	*Bethesda, MD*
2013	**Recipient,** NIH (NHLBI) Research Supplement to Promote Diversity in Health-Related Research	*Bethesda, MD*
2012	**Dean's List,** Georgia Institute of Technology	*Atlanta, GA*
2008	**Winner and Representative,** Carbon Reduction Challenge	*Washington, DC*
2007	**Scholar,** Georgia Tech Honors Program	*Atlanta, GA*

Presentations and Publications

Bedja D, Mishra S, Amuzie C, Avolio A, Chatterjee S. "Prevention of cardiac hypertrophy by the use of a glycosphingolipid synthesis inhibitor in ApoE-/- mice." BBRC 465(1): 159-164. 4 Aug 2015.

Mishra, S., D. Bedja, C. Amuzie, C. A. Foss, M. G. Pomper, R. Bhattacharya, K. J. Yarema, and S. Chatterjee. "Improved intervention of atherosclerosis and cardiac hypertrophy through biodegradable polymer-encapsulated delivery of glycosphingolipid inhibitor." Biomaterials 64 (2015): 125-135.

Amuzie, Christine, et al. "Inhibition of glycosphingolipid synthesis ameliorates atherosclerosis and arterial stiffness in Apo E-/-mice and rabbits fed a high fat and cholesterol diet (607.11)." Experimental Biology 2014 . 30 April 14. San Diego: Oral Presentation.

Chatterjee S, Bedja D, Mishra S, Amuzie C, Avolio A, Kass DA, Berkowitz D, Renehan M. "Inhibition of glycosphingolipid synthesis ameliorates atherosclerosis and vascular stiffness in apoE-/- mice." Circulation (2014): CIRCULATIONAHA-113.

Mishra S, Bhattacharya R, Bedja D, Amuzie C, Yarema K, Chatterjee S. "Biopolymer encapsulation of a glycolipid synthesis inhibitor prolongs its antiproliferative effects." Glycobiology Interest Group Poster Session . 14 April 2013. Baltimore: Print.

Amuzie CC, Chen YF, and Merrill AH. "Spectromic Analysis of Sphingolipids in RAW 264.7 Cells on Indium-Tin Oxide Slides Reveals Activation of Inflammatory Pathways." The Tower . 2012. Vol 5

Amuzie C, Brown B, Chen T, Ly N, Sheard K, and Yi E. "LyGDI as a Promising Biomarker for Ovarian Cancer." Festival of Research Ideas in Cancer Biology and Technology . 17 Nov 2011. Atlanta: Print