



INDUSTRY EXPERIENCE

- Civil Engineering
- Government Contracting
- Computational Biology
- Healthcare
- Education

FUNCTIONAL EXPERIENCE

- Data Modeling
- Data Analysis
- Machine Learning
- Statistical Analysis
- Data Visualization
- Exploratory Data Analysis
- Uncertainty Quantification
- Sensitivity Analysis
- Parameter Estimation
- Predictive Model Development
- Bayesian Inference
- Markov Chain Monte Carlo Algorithms
- Agile Project Management
- Technical Writing

SYSTEMS EXPERIENCE

- Python
- MATLAB
- SQL
- R
- Tableau
- PowerBI
- Azure
- Git/GitHub
- Jira
- Jupyter Notebook
- Visual Studio Code

EDUCATION & CERTIFICATIONS

Master of Science, Applied
Mathematics – North Carolina State
University

Bachelor of Science, Mathematics
(Magna Cum Laude) – North Carolina
State University

EXECUTIVE SUMMARY

Experienced Data Analyst / Data Scientist specializing in data modeling, machine learning, and statistical analysis. Proven ability to develop and optimize complex models. Delivered actionable insights for strategic decisions exhibiting expertise in parameter estimation and uncertainty quantification. Strong project management and leadership skills. Passionate about leveraging data to solve real-world challenges and foster innovation.

RELEVANT EXPERIENCE

- Led research and development of predictive dynamical system models for the U.S. Air Force and the U.S. Army ERDC, leveraging parameter estimation, sensitivity analysis, and uncertainty quantification to enhance predictive capabilities, improving model accuracy to 12 decimal places.
- Responsible for the writing and editing of technical documentation securing several multi-million-dollar government contracts.
- Managed Agile project workflows using Jira and Confluence, overseeing documentation, sprint planning, and organization for researchers and engineers.
- Conducted exploratory data analysis in Python and Jupyter Notebook, with Pandas, on lab and site-collected data using Azure Databases and SQL, identifying key structural health trends.
- Created and maintained visualizations and dashboards in Tableau to present lab experiment results, model outputs, and statistical analyses.
- Developed, modified, and optimized models within Visual Studio Code, leveraging GitHub for version control and seamless integration into the existing computational pipeline.
- Spearheaded the introduction and integration of machine learning techniques, decision trees, and regression in service life modeling and reinforced concrete strength assessments.
- Conducted statistical model calibration in MATLAB, including Bayesian inference, frequentist analysis, and uncertainty quantification for individualized medicine, disease, cardiovascular, fluid dynamics, and pollution models.

Professional Chronology	
2025	Professional Consultant <i>Vaco</i>
June 2023-2024	Data Scientist (2024-Oct 2024) Research Engineer (2023-2024) <i>FDH Infrastructure Services</i>
2021-May 2023	Graduate Researcher (2022-2023) Graduate Teaching Assistant (2021-2023) <i>North Carolina State University</i>
2021-May 2023	Adjunct Teacher <i>Wake Technical Community College</i>