Erica **Brooks**

Data Scientist

Greenville, SC 29605

864-625-0938 | brooksej.data@gmail.com | https://brookserica.github.io/ | www.linkedin.com/in/ej-brooks

Skills

Programming	Python, R, SQL, SAS, LaTex
Packages	NumPy, Tensorflow, Keras, PyTorch, Pandas, Matplotlib, Plotly, Scipy, Librosa, Whisper, SciKit-Learn
Tools	VSCode, RStudio, Github, AWS, Jupyter(Anaconda), Milvus VDB, Docker, PowerBI, Tableau
Machine Learning	NLP, Linear/Logistic Regression, Decision Trees and Forests, Support Vector Machines, Transformers, Gradient Boosting Machines, Clustering (K-means, KNN, DBSCAN), Principal Component Analysis (PCA)
Deep Learning	LLMs, Convolutional Neural Networks (CNN), Recurrent Neural Networks (RNN), Generative Adversarial Networks (GAN), Reinforcement Learning (RL)

Education

Southern Methodist University — *Dallas, TX*

M.S. in Data Science, **GPA:** 3.5 — *2023 - 2025*

East Tennessee State Uiversity — *Johnson City, TN*

B.S. in Computer Science, Minor in Management — *2002 - 2005*

Projects | Research

Voice Biometric Authentication GitHub | Journal | PowerPoint

Author | Capstone Project

- Transformed the user experience by making interactions with devices smoother, more personalized, and inclusive using voice biometric authentication.
- Created a multi-modal web-based UI to capture user information and audio recordings.
- Generated vector embeddings of voice print data to be used for validation and authentication.
- Stored vector embeddings in Milvus VDB for easy retrieval and evaluation.
- Compared and Evaluated voice prints against real-time user audio input.
- Utilized Librosa, Milvus, Docker, Whisper LLM, and other tools for project.
- Published to SMU Data Science Journal Review.

Aligning AI Models with Human Values Youtube

Machine Learning 2 (class) Project

- Better understand how AI models can align with human preferences by using direct feedback from human evaluators.
- Explanation of Reinforcement Learning with Human Feedback (RLHF).
- Discussed Proximal Policy Optimization (PPO).
- Explanation of the RLHF and PPO Integration in machine learning and AI.

Dense Neural Network for Predicting Class GitHub

Quantifying the World (class) Project

- Implemented a binary dense neural network classifier on a moderate size dataset.
- Utilized data pre-proceessing methods to transform the data for evaluation.
- Built a simple-feed forward PyTorch neural network model to make predictions with a high level of accuracy.
- Created a custom cost function to reflect business-impact of misclassifications.

Employment

Bausch + Lomb — *Greenville, SC*

Quality Software Specialist — *Oct 2019 - Present*

- Assess the data integrity of computerized lab systems.
- Collaborate with global/local IT and Validation teams to validate laboratory systems.
- Create and execute user acceptance and functional test scripts to ensure software usability.
- Work with software vendors, internal teams, and 3rd party vendors to troubleshoot complex system-related issues.
- Initiate and manage change requests related to the enhancement and maintenance of systems.
- Create and revise SOPs, validation protocols, user requirements, and memos as needed.

Bausch + Lomb

Greenville, SC

Associate Trainer III

Jul 2014 - Oct 2019

- Create and develop e-learning material for site and departmental use.

Siemens (BASF Chemical Company)

Anderson, SC

Lead Computer Operator II

Sept 2005 - Nov 2013

- Data Center - Monitor system performance, application batch processing, batch reruns, hardware failures and restore systems.
- Responsible for the overall activities of both the LAN/Server room.
- Perform diagnostic on system failures, resolved any issues that affected business productivity.
- Modified workload schedule to ensure batch jobs ran efficiently and effectively.
- Performed database and file restores.
- Communicated, interacted, and assisted IT support staff with troubleshooting any system failures.

Licenses + Certifications

Project Management Institute

National

Project Management Professional, PMP

April 2022 - April 2025