Britney T. Forsyth

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EDUCATION

Columbia University | New York, NY — Sep 2021 – Dec 2022
M.S. Data Science

Pennsylvania State University | University Park, PA — Aug 2017 – May 2021
B.S. Mathematics – Concentration in Statistics
B.S. Biomedical Engineering – Concentration in Biochemistry

WORK EXPERIENCE

Data Scientist | New York, NY — Jan 2023 - June 2025
Memorial Sloan Kettering Cancer Center

- Built pipelines for preprocessing and quality control of single-cell RNA-seq data using Python, R, and workflow managers, such as Nextflow, on HPC clusters
- Applied unsupervised learning techniques (e.g., matrix factorization, clustering, dimensionality reduction, manifold learning, etc.) to uncover hidden patterns and structure in large-scale biological datasets
- Collaborated closely with interdisciplinary teams and effectively communicated research outcomes in team meetings and conferences

Machine Learning Researcher | New York, NY — Sep 2021 – Dec 2022
Columbia University

- Built end-to-end data pipelines in Python to convert time-series gaze data into image-aligned saliency maps for training supervised deep learning models
- Trained and optimized a hybrid Transformer–CNN model (TranSalNet) for visual attention prediction, achieving top benchmark scores (e.g., CC, NSS, KLD, SSIM)
- Fine-tuned model to enhance model accuracy, including increasing data collection, improving data quality, and modifying model architecture

Machine Learning Research Intern | Bethesda, MD — May 2021 – Aug 2021
National Institutes of Health

- Created and implemented a Python and MATLAB-based algorithm for classification and severity prediction of hemorrhagic transformation with human brain MRI images
- Collaborated with physicians, engineers, and lab technicians to compile a clinical stroke patient dataset of 100+ MRI images for algorithm training
- Achieved testing accuracy of 80% on testing dataset with novel implementation of a 3D CNN in TensorFlow

Machine Learning Research Intern | Bethesda, MD — May 2019 – Aug 2019
National Institutes of Health

- Constructed image-quality-enhancement algorithms to improve 3D image quality, image reconstruction, procession, and analysis of 100+ diffusion-weighted MRI (DW-MRI) images in Python and C
- Collaborated and communicated with 7+ team of engineers, scientists, and physicians to determine proper correction of DW-MRI images for release of TORTOISE software
- Achieved better image quality, faster imaging speed and higher robustness of DW-MRI image quality for improved image analysis

SKILLS

Programming: Python, R, MySQL, MATLAB, Bash, HTML/CSS
Development Tools: Git, GitHub, Jupyter Notebook, R Studio, Anaconda Navigator, VS Code, GitHub Copilot, Cursor, Nextflow, Snakemake, MySQL Workbench
Software: Microsoft Office (Excel, PowerPoint, Word), Adobe (Photoshop, Illustrator, Premiere Pro), SPSS, SAS, COMSOL, CAD, ImageJ