Breanna M. Lee

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SUMMARY

Graduate of a highly-ranked technology university eager to engage in a data science or engineering role. Experience in automating data analysis pipelines including preprocessing of raw unstructured data, data engineering, database management, and design of predictive machine learning models to guide decision-making. Seeking to leverage data skills and solid engineering foundation in a collaborative environment.

EDUCATION

Biomedical Engineering, M.S. Fall 2019
Georgia Institute of Technology | Atlanta, GA GPA: 3.6
Concentration: Data Science

Chemical Engineering, B.S. Spring 2018
Louisiana State University | Baton Rouge, LA GPA: 3.9
Minors: Business Administration, Robotics

SKILLS & CERTIFICATIONS

- **Languages**: Python, R, SQL, Cypher, C++, HTML, CSS, D3, VBA, Java
- **Big Data:** AWS, Hadoop, Apache Spark Databricks, Google Cloud BigQuery, Open Refine
- **Machine Learning:** Scikit-learn, Random Forest, SVM, Naïve Bayes, Regression, Feature Selection, Cross Validation
- **IDEs/Other Tools**: Eclipse, JupyterLab, Spyder, Visual Studio Code, Xcode, R Studio, MATLAB, Tableau, MySQL Workbench, Neo4j, GitHub, Linux, Excel, SLURM Workload Manager, Agile, WinSCP, Putty, Azure DevOps

EXPERIENCE

Data Engineer, Bioinformatics Jan 2020—Mar 2020
Baylor Genetics at the Texas Medical Center | Houston, TX
- Adapted quickly to a fast-paced environment to tackle bioinformatics pipeline and technology challenges while presenting new and creative ideas to maximize efficiency.
- Wrote python, bash, and R scripts to automate whole exome sequencing pipeline analysis tasks such as automatically detecting a new batch of coding SNPs, calculating genotypes, and loading sample results into a MySQL database
- Configured and implemented the SLURM Workload Manager HPC technology onto several server compute nodes after extensive troubleshooting and customization for the existing cluster
- Developed integration and unit test infrastructure to feasibly assess pipeline feature performance, run end-to-end tests, and verify quality control statistics for validation documents
- Spear-headed efforts to maintain organized and up-to-date pipeline documentation to facilitate efficient knowledge transfer between developers and prepare for external auditing

Graduate Student Researcher, Department of Biomedical Engineering Aug 2018—Dec 2019
Georgia Institute of Technology | Atlanta, GA
- Used MySQL to transform raw patient data into a workable standardized form in preparation for ML classification
- Built a machine learning model using Random Forest, Logistic Regression, KNN, and SVM to predict ICU mortality from vital sign data while employing feature extraction, feature selection, and cross-validation methods
- Refined an NLP software in Python to extract insight from unstructured data and to guide research decision-making
- Modeled time-dependent physiological stages of a wild-type mouse using data imputation and unsupervised ML clustering

Undergraduate Researcher, School of Electrical and Computer Engineering May 2017—Aug 2017
Georgia Institute of Technology SURE Robotics REU | Atlanta, GA
- Performed a statistical analysis on robot therapy response data in R to enhance real-time corrective feedback
- Conducted a study comparing intrinsic motivation and movement time during gameplay with multiple robotic platforms
- Published analysis findings in a first-authored article in the 2017 IEEE Symposium Series on Computational Intelligence conference proceedings

Summer Intern, Research and Technology May 2016—Aug 2016
Albemarle Corporation Process Development Center | Baton Rouge, LA
- Streamlined a distillation process by collecting and assessing operation data to increase product purity by 30%
- Led a team of engineers and chemists to determine safe solutions for malfunctioning equipment
- Managed project safety measures according to PSM elements, including operator training and emergency response

Process Design Engineering Intern, Beaumont Area Projects Research and Engineering May 2014—Aug 2014
ExxonMobil | Beaumont, TX
- Coordinated and led project team meetings for two capital projects at the Beaumont refinery and polyethylene plant
- Designed common spare low pressure separator for polyethylene plant to improve maintenance reliability
- Collaborated with EMRE at Baytown in determining effective corrosion prevention practices for carbon steel piping

LEADERSHIP AND AWARDS

- National Science Foundation GRFP Fellow
- NSBE ExxonMobil Diversity Scholar
- Georgia Tech President's Fellow
- LSU Research Conference 2nd Place Oral Presentations
- Emory University Woodruff Fellow
- Boys and Girls Club STEM Lead Tutor