Micaela V. McCall

DATA SCIENTIST

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TOOLS & SKILLS

Data Science

- Python
- Clojure
- R
- Machine learning
- Statistical modeling
- Feature extraction

- Classification & regression
- Supervised & unsupervised
- Deep learning, neural nets
- Natural language processing
- Predictive analytics
- Data visualization

- ETL
- MLFlow
- MongoDB
- Azure ML
- PostgreSQL
- Git & Github

Software Development

- Agile software development
- Test-driven development
- Refactoring
- Pair programming/mobbing
- Azure DevOps
- Kubernetes

- Docker
- AWS/Azure
- Jira
- Elasticsearch

EXPERIENCE

Data Scientist   03-2020 - Present

ATA, LLC, The Full Stack Data Science Company

- Implemented the following analytical projects in Python:
  - Data-driven geospatial risk-analysis algorithm using Bayesian statistics
  - Suite of machine learning and statistical anomaly detection algorithms for use in streaming data systems
  - Ensemble of deep learning and classical machine learning for regression problems in logistics
  - Natural Language Processing and use of medical ontologies for text navigation
- Designed and implemented full-stack data-intensive applications in Clojure to put the above analytical solutions into production.
- Lead a project start-to-finish to create a new API to perform the risk analysis mentioned above, and integrate it with existing company products.
- Applied machine learning operations (MLOps) to production systems, including the development, testing, deployment, and management of model services.
- Developed RESTful APIs in Clojure for complex data integration, processing data from public and licenced datasets, storing in relational and document-oriented databases, and preparing for use by company user interfaces.
- Communicated analytical methods and results to technical and non-technical clients and stakeholders.

Research Analyst   05-2018 - 03-2020

National Institutes of Health, National Center for Complementary and Integrative Health   Bethesda, MD

- Built pipelines in R and Python for analysis of behavioral and physiological data (fMRI, autonomic).
- Managed Electronic Health Records and clinical data.
- Collaborated with a diverse research team, facilitated patient visits, and consulted with patients on study procedures.
- Designed data visualizations, written, and verbal reports for multidisciplinary audiences.

PROJECTS & PUBLICATIONS   more at micaelamccall.com⧉

Finding Topic Clusters in Tech News (GitHub)   01-2020

NIH Foundation for Advances Education in the Sciences, Bioinformatics and Data Science   Bethesda, MD

- Web-scraped 1,500 tech news articles and trained a KMeans unsupervised algorithm to cluster articles based on content.

Exploring Patient Satisfaction and Readmission in Medically Underserved Areas (GitHub) 09-2019

NIH Foundation for Advances Education in the Sciences, Bioinformatics and Data Science   Bethesda, MD

- Munged data from multiple API queries, totalling over 2400 rows, and visualized factor relationships using Python.

Using Supervised Learning to Classify Drug Consumption Behavior (GitHub)   11-2018

NIH Foundation for Advances Education in the Sciences, Bioinformatics and Data Science   Bethesda, MD

- Trained Logistic Regression, random forest, and SVC models on survey data to predict drug use using Python.

Pleasant Deep Pressure: Expanding the Social Touch Hypothesis   *09-2018*

National Center for Complementary and Integrative Health   *Bethesda, MD*
- Processed and statistically analyzed fMRI data using Python and FSL; created visualizations for manuscript.
- Manuscript in preparation: by Laura K. Case, Jaquette Liljencrantz, **Micaela V. McCall,** et al.

Honors Thesis: Analyzing Non-verbal Behavior Throughout Recovery in a Sample of   *05-2018*

Depressed Patients Receiving Deep Brain Stimulation   *Atlanta, GA*

Emory University
- Designed project, collected, and analyzed behavioral data in R using Factor Analysis, Analysis of Variance, and Regression.
- Manuscript in preparation: by **Micaela V. McCall,** Patricio Riva-Posse, M.D., Helen S. Mayberg, M.D., Andrea L.Crowell, M.D.

EDUCATION

Emory University, *BS in Neuroscience and Behavioral Biology, BA in Religion*   *2014-2018*
- Phi Beta Kappa, Highest Honors in Neuroscience Research   *Atlanta, GA*