

# Monica Boyce, Ph.D.

## Data and Life Scientist

Experienced Ph.D. scientist with 20+ years of lab research, academic, scientific, medical, and biopharmaceutical writing and communication expertise seeking a Data Science role. Proficient in python coding, exploratory data analysis, statistical analysis, data visualization, and machine learning techniques such as model building, cross-validation, decision trees, random forests, time-series analysis, network analysis, principal component analysis, and deep learning. Completed MIT Applied Data Science Program with practical experience in artificial and convolutional neural networks for computer vision applications.

### Education and Training

MIT Applied Data Science Program - MIT Professional Education, 2022

**Ph.D.** Cell and Developmental Biology, Emory University, Atlanta, GA, 1994

**B.S.** Biology, University Of Georgia, Athens, GA, 1990

### Data Science Projects

The code, slides and written reports for these projects are accessed at [www.monicaboyce.com](http://www.monicaboyce.com)

#### Machine Learning/Deep Learning

Projects on Convoluted Neural Networks, Facial Emotion Recognition, and Loan Default Prediction using various methods such as ANN, logistic regression, Decision Trees, Random Forest, SVM, XGBoost, Gaussian Naive Bayes, and K Nearest Neighbor analyses.

#### Data Wrangling and Cleaning

A project on the identification and correction of data quality using a Loan Default Prediction dataset.

#### Data Visualization

A project that demonstrates effective graphical exploration of data using python, numpy, seaborn, and other technologies, based on a Loan Default Prediction project.

### Recent Relevant Work Experience

**Science Instructor** - North Brookfield High School (2020-2022)

- Communicated complex technical concepts to diverse audiences.
- Produced high-quality instructional materials and assessments to support learning and engagement.

**Director** - Caprine Dairy Husbandry (2008-2018)

- Built relationships with mentors to gain the necessary knowledge to initiate program start-up
- Managed complex, multi-year project planning

**Medical Writer** - ORC Guideline (Remote) (2009-2010)

- Managed projects with skill in budgeting, timeline management, and stakeholder communication.
- Quickly learned and presented complex scientific concepts clearly and engagingly.
- Organized effectively with attention to detail and multitasking abilities.

**Document Specialist** - CellExchange, Cambridge, MA - (2005-2007)

- Ensured quality control and accuracy of technical documents related to SDLC.
- Collaborated with cross-functional teams to streamline document review processes

**Clinical Writer** - clinivation, Inc. Framingham, MA - (2005)

- Wrote and edited clinical documents with technical expertise.
- Conducted thorough research to support high-quality clinical document development.

**Medical Information Specialist** - Global Medical Affairs - Cardiovascular - Millennium Inc. Cambridge, MA (2004- 2005)

- Collaborated with diverse teams to communicate clinical study results to healthcare providers through Medical Information Letters.
- Wrote, edited, and performed QC reviews for medical information materials in compliance with regulatory and ICH guidelines.
- Conducted thorough evaluations of clinical studies and data to support high-quality medical information materials.

#### Project Manager & Technical Writer

Applied Research & Development - EXACT Sciences Corp., Marlborough, MA (2001-2003)

- Led project planning for scientific and technical staff, utilizing project management skills.
- Composed manuscripts and created abstracts, figures, and tables from raw data, demonstrating proficiency in scientific writing and data analysis.
- Communicated and collaborated with external collaborators and project participants.
- Authored and submitted scientific manuscripts to leading journals, resulting in the successful publication of this mission critical paper: Boynton KA, et al. 2003 Clinical Chemistry 49(7):1058-1065.

**Note:** A more complete listing of work experience available in the long form version of this resume at [www.monicaboyce.com](http://www.monicaboyce.com)

### Personal Info

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#### Phone

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#### Portfolio Site

[www.monicaboyce.com](http://www.monicaboyce.com)

#### LinkedIn

[linkedin.com/in/nikaboyce/](https://linkedin.com/in/nikaboyce/)

### Selected Skills

- Python
- Numpy
- Seaborn
- PANDAS
- Scikit-learn
- Keras
- TensorFlow
- PyTorch
- Jupyter Notebooks
- Google Colab
- Git & Github
- Data Wrangling & Cleaning
- Exploratory Data Analysis
- Feature Engineering
- Data Visualization
- Machine Learning
- Deep Learning (CNN)

### Selected Certifications

MLOps Essentials: Model Development, Integration, Deployment and Monitoring

PyTorch: Deep Learning

Git Intermediate Techniques

SQL for Data Analysis

Object-Oriented Design

Agile Software Development

Agile: Extreme Programming

#### Currently In-Process

C++ Essential Training

Microsoft Certified: Azure Data Scientist Associate

Microsoft Certified: Power BI Data Analyst Associate

PMI - Agile Certified Practitioner (PMI-ACP)

Neo4j Certified Graph Data Science Professional  
Neo4j GraphAcademy

Amazon Web Services (AWS) - Machine Learning Specialty

Tableau Essential Training