

Michael W. Kearney, Ph.D.

Data Scientist [NLP](#) | [AI](#) | [ML](#)

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Professional Summary

Internationally recognized expert in Data Science, Natural Language, and Artificial Intelligence with over ten years of professional experience, strong theoretical and quantitative backgrounds, and a knack for finding and implementing innovative solutions to complex problems.

Professional Experience

AI Consultant	Aware (client)	Michael Kearney AI Consulting LLC	2023
<ul style="list-style-type: none">Delivered recommendations on use and development of generative AI and large language modelsDescribed strengths and limitations in data sources and models and estimated project timelinesDrafted plans to implement/monitor human-in-the-loop AI labeling and offer multi-tier API access			
Senior Data Scientist	Language/Labs	Aware	2021-2023
<ul style="list-style-type: none">Refactored, optimized, and implemented best practices for large language modelsEnabled multilingual training and converted pipelines from Airflow to Sagemaker PipelinesProposed and built information quality model to supercharge ML and generative AICurated external dataset containing 500 million heuristically labeled social messagesCreated internal packaging for external data collection, data visualization, and samplingOwned, improved, and expanded (to non-English) featured NLP models-sentiment & toxic speechAutomated model reports on inputs, parameters, and metrics (precision, recall, f1, accuracy)Used SQL and Athena to efficiently query customer data in DynamoDB, Athena, and RedshiftFrequently worked with datalakes, Apache Arrow columnar format, and unstructured JSON dataMentored junior team members and often contributed tutorials and other documentationDelivered public- and client-facing thematic analysis of workplace collaboration messagesCreated labeling rule books, documented edge cases, and trained third party annotators			
Assistant Professor	Data Science & Journalism	University of Missouri	2017-2021
<ul style="list-style-type: none">Developed and taught courses on social media data, networks, machine learning, and statisticsMentored dozens of data science and journalism capstones and chaired two doctoral dissertationsDeveloped and reviewed open-source data science tools, including popular bot detection softwareServed on various school and university committees related to data, education, and diversity			
Data Consultant	Research Methods Center	University of Kansas	2016-2017
<ul style="list-style-type: none">Delivered feedback on interdisciplinary research projects across university systemLed data science working groups on python, machine learning, and natural language processingContributed to project automating personalized analytics for students in a large school district			
Instructor	Communication	University of Kansas	2012-2016
<ul style="list-style-type: none">Created rtweet, a massively popular R package for collecting and analyzing Twitter dataInstructor of record for quantitative methods, public speaking, leadership, and persuasionUpdated and refined course materials for core quantitative research methods course			

Tools

Languages	Python R SQL Git Docker Bash JavaScript
AWS Resources	S3 Sagemaker ECR Athena Redshift DynamoDB
Web Data Collection	REST/Stream APIs requests BS4 HTTP Rvest
Dev-Ops	Azure Jira GitHub Gitlab Confluence Trello
Deep Learning	PyTorch TensorFlow HuggingFace Keras
Machine Learning	Scikit-learn XGBoost FastText Tidymodels
Natural Language	Spacy HuggingFace NLTK RegEx Scikit-learn
Data Science	Polars Pandas Numpy Tidymodels Data.table
Data Visualization	Ggplot2 Ggvis Plotly Matplotlib D3
Reporting	JupyterNB Markdown Knitr Quarto LaTeX

Skills

Theory	Communication Media Interpersonal Opinion/Topic Mining
Research Methods	Experiments Survey Annotation Algorithmic Labeling Sampling
Artificial Intelligence	LLMs Transformers Human in the Loop Reinforcement
Supervised Learning	Linear Models Multilevel Time Series ANOVA Structural Equation
Unsupervised Learning	Topic Modeling Network Analysis PCA Factor Analysis Similarity
Leadership	Project Management Team Supervisor Committee Member & Chair

Education

Ph.D. (with Honors) Communication & Behavioral Sciences Methodology	University of Kansas	Lawrence, KS	2017
M.A. (with Honors) Communication Studies	University of Kansas	Lawrence, KS	2014
B.S. (comprehensive) Socio-Political Communication	Missouri State University	Springfield, MO	2012

Publications (Selected)

Peer-Reviewed Articles

- Comparative approaches to misinformation, International Journal of Communication, 2021
- Exploring gender differences on Twitter with NLP, Journal of Language and Social Psychology, 2021
- Collecting and analyzing Twitter data, Journal of Open-Source Software, 2019
- Analyzing change in network polarization, New Media Society, 2019
- Two tests of social displacement through social media use, Information, Communication, & Society, 2018
- Interpersonal goals and political uses of Facebook, Communication Research Reports, 2017

Popular Press Articles

- March Madness office talk on par with Vegas odds, PR Newswire, 2023
- Doubts cast over Elon Musk's Twitter bot claims, BBC News, 2022
- Using data science to uncover mystery author of Times' Op-ed, Reynolds Journalism Institute, 2018
- Trusting News project report, Trusting News, 2017

Open-Source Software

- tweetbotornot2: Detecting Twitter bots, 100,000 downloads / 27 citations, 2019
- textfeatures: Extracts features from text, 43,000 downloads / 4 citations, 2017
- rtweet: Collecting Twitter data, 1,100,000 downloads / 491 citations, 2016