

MICHAEL W. KEARNEY, PH.D.

NLP/AI SCIENTIST

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PROFESSIONAL SUMMARY

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

PROFESSIONAL EXPERIENCE

A.I. CONSULTANT	<i>Aware (client)</i>	<i>Michael Kearney AI Consulting LLC</i>	2023
<ul style="list-style-type: none">• Provided expertise and guidance related to the use and development of artificial intelligence• Created user-friendly documentation and database-specific tips/tricks for working data scientists• Evaluated and proposed improvements to model training and evaluation pipelines			
SENIOR DATA SCIENTIST	<i>BI Team & Data Labs</i>	<i>Aware</i>	2021-2023
<ul style="list-style-type: none">• Converted natural language model training pipelines from Airflow to Sagemaker• Owned, refined, refreshed, etc., the two featured language models—sentiment and toxic speech• Enabled, trained, and extensively data mined for multilingual development of models• Parameterized model training and added extensive feedback (metric logging)• Refactored large language models in PyTorch, added configurability, and enabled GPUs• Automated model evaluation with Sagemaker pipelines and added real-world robustness checks• Authored model performance reports on inputs, parameters, and metrics (precision, recall, f1, accuracy)• Identified, mined, and built pipelines for collecting diverse external sources of data• Created labeling rule books, documented examples, and trained/worked with third party annotators• Provided public-facing and client-facing topic analysis of workplace collaboration messages• Mentored junior team members and frequently created tutorials and added to documentation• Created internal packaging for data visualization and sampling, aggregating, and uploading to S3• Used SQL and Athena to efficiently work with customer data stored in DynamoDB, Athena, and Redshift• Created and worked with datalakes, Apache Arrow columnar format, and unstructured JSON data			
ASSISTANT PROFESSOR	<i>School of Journalism & Informatics Institute</i>	<i>University of Missouri</i>	2017-2021
<ul style="list-style-type: none">• Developed and taught courses on social media data, networks, machine learning, research methods, etc.• Mentored over 50 masters' students and chaired dozens of journalism theses and data science capstones• Chaired two doctoral dissertations on computational analysis of social media and data visualization• Created, reviewed, and researched open-source AI bot detection software• Developed and maintained popular open-source data science tools for working with digital trace data• Served on various school and university committees related to data, education, and diversity			
INSTRUCTOR/CONSULTANT	<i>Communication & Research Methods Center</i>	<i>University of Kansas</i>	2012-2017
<ul style="list-style-type: none">• Provided analysis and guidance on interdisciplinary research projects across university system• Contributed to project automating personalized analytics for students in a large school district• Created rtweet, a massively popular and influential R package for collecting and analyzing Twitter data• Instructor of record for courses on public speaking, research methods, and leadership• Facilitated working groups on data science and machine learning topics			

TOOLS

LANGUAGES	Python R SQL Git Docker Bash JavaScript
SERVICES	AWS[s3,sagemaker,ecr,athena,redshift] REST APIs
DEV-OPS	Azure Jira GitHub Gitlab Confluence Trello
DEEP LEARNING	PyTorch TensorFlow HuggingFace Keras
MACHINE LEARNING	XGBoost FastText scikit-learn tidymodels
NATURAL LANGUAGE	Spacy HuggingFace nltk RegEx scikit-learn
DATA SCIENCE	polars pandas numpy tidyverse data.table
DATA VIZUALIZATION	ggplot2 ggvis plotly matplotlib d3js

SKILLS

THEORY	Communication Media Interpersonal Opinion & Topic Mining
PRACTICE	Human Annotation Heuristic & Algorithmic Labeling Sampling & Bias
ARTIFICIAL INTELLIGENCE	LLMs Transformers RNN/CNN GRU/LSTM MLP
MODELING	Regression Multilevel Panel ANOVA Structural Equation
UNSUPERVISED	Topic Modeling Network Analysis PCA/CFA Similarity
TEAMWORK	Research Team Experienced Multitasker AGILE Project Philosophy
LEADERSHIP	Project Management Team Supervisor Committee Member & Chair

EDUCATION

DOCTOR OF PHILOSOPHY (PH.D.)	University of Kansas	Lawrence, KS	2017
Communication & Social and Behavioral Sciences Methodology			
MASTER OF ARTS (M.A.)	University of Kansas	Lawrence, KS	2014
Communication			
BACHELOR OF SCIENCE (B.S.)	Missouri State University	Springfield, MO	2012
Socio-Political Communication			

PUBLICATIONS (SELECTED)

PEER-REVIEWED ARTICLES

- [Comparative approaches to misinformation](#), Int. J. Commun.. 2021
- [Exploring gender differences on Twitter with NLP](#), J. Lang. Soc. Psychol.. 2021
- [Collecting and analyzing Twitter data](#), J. Open Source Softw.. 2019
- [Analyzing change in network polarization](#), New Media Soc.. 2019
- [Two tests of social displacement through social media use](#), Inf. Commun. Soc.. 2018
- [Interpersonal goals and political uses of Facebook](#), Commun. Res. Rep.. 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](#), Rynl. Jnl. Inst.. 2018
- [Trusting News project report](#), Rynl. Jnl. Inst.. 2017

OPEN SOURCE SOFTWARE

- [rtweet: Collecting Twitter data](#). 1,100,000 downloads / 491 citations
- [tweetbotornot2: Detecting Twitter bots](#). 100,000 downloads / 27 citations
- [textfeatures: Extracts features from text](#). 43,000 downloads / 4 citations