

Sean Hamilton Palicki, MSc.

Doctoral Candidate in Computational Social Science

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EDUCATION:

PhD in Computational Social Science/Political Communication

Technical University of Munich
Germany (Expected End-2025)

Thesis:

Natural Language Processing
and Automated Text Analysis
for Analyzing News Media.

MSc in Big Data Analytics

Birmingham City University
UK (11/2019)

Thesis:

Sentiment Analysis Based on
Transfer Learning for Detecting
Distress in Brexit Tweets.

Honors:

First Class with Distinction
(Grade: 81.78%, Rank: 1/20)

BA in Psychology

San Diego State University
USA (05/2013)

Thesis:

Connecting Mindfulness and
Environmental Psychology.

Honors:

Summa Cum Laude
(GPA: 3.95/4.0)

SKILLS:

Certifications:

Professional Scrum Master
PRINCE2 Project Manager

Programming:

Python, R, SQL, JS, Linux, Git

Data Analysis:

Tidyverse, Apache Spark,
Pandas, Numpy, Polars, Spacy
Quanteda, Tableau, Plotly

AI/ML:

Langchain, Transformers,
Ollama, Tensorflow, Keras,
Scikit-learn, Topicmodels

Languages:

English (Native)
German (B2/Intermediate)

PROFILE:

Data Scientist with 12+ years in natural language processing, machine learning and data analytics. Deep technical expertise in python, R, SQL, LLM fine-tuning and cloud services. Proven experience leading cross-functional teams that deliver actionable insights and scalable AI solutions.

EXPERIENCE:

Doctoral Researcher at the Technical University of Munich

Doctoral Candidate, 03/2021 - Present, Munich, Germany

Emmy Noether Junior Research Group, 03/2021 - 03/2024

- Data science specialist using NLP and big data for experiments in responsible AI, social science and media research.
- Prompting, evaluating, fine-tuning, and red-teaming language models including GPT, Gemma, Mistral, Deepseek and BERT models.
- Developed and maintained databases and ETL pipelines for 1.2 TB news articles using LRZ cloud, Apache Spark, AWS and Docker.
- Multiple projects in peer-reviewed publications and shared at international conferences and podcasts.

Data Scientist at LiveBuzz

10/2019 - 04/2020, Coventry, UK (Freelance)

- Built graph-based analytics platform in MS Azure, transitioning from RDBMS to scalable Graph DB solution.
- Developed data model and graph schema supporting events management, ticketing services, and recommendation.
- Agile team with developers, business analysts and architects.

Director of Product Development at Acorn Evaluation

11/2013 - 10/2019, San Diego, CA, USA

- Managed multiple agile projects simultaneously, responsible for stakeholder communication, project planning, writing product requirements, and meeting timelines to deliver ROI.
- Developed ETL and analysis pipelines from databases, open text, surveys, experiments, spreadsheets, and websites.
- Created data visualizations including custom dashboards, infographics, maps and presentations focused on KPIs.

PROJECTS:

Comparing the Ecological Footprint and Accuracy of AI Systems:

Evaluation of large language models found that fine-tuned models outperformed general LLMs by up to 27% (F1) while saving up to 100,000x compute costs for sentiment analysis, classification and NER tasks.

Evaluating Approaches to Multilingual Document Retrieval:

A Human-In-The-Loop AI approach was more effective than AI Alone or Semantic Search approach (F1=92.7 vs F1=77.6). Mistranslation negatively impacts results from word counts and topic modeling.

Using Large Language Models to Analyze Media and Identity:

Several projects focused on bias, NLP and machine learning applied to social identity and media. Example, chained prompting reduces LLM bias and hallucinations related to religion, gender, and race (F1=90.8, 86.1, 85.1).

Personal Portfolio: <https://sean.web-of-us.com>