Keith Harrigian

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Education

Aug. 2019 – Present	**Johns Hopkins University** MSE, PhD, Computer Science. GPA: 4.0/4.0
Sept. 2013 – May 2017	**Northeastern University** BS, Mathematics. Minors in Physics and Music. GPA: 3.9/4.0

Academic Research

Aug. 2019 – Present — **Center for Language and Speech Processing** *Graduate Research Assistant | P.I. Mark Dredze*

- Develop health-oriented machine learning models that are robust across multiple environments (e.g., data platform, demographic composition, hospital system)

Aug. 2014 – Aug. 2019 — **Action Lab** *Research Assistant | P.I. Dagmar Sternad*

- Engineered a new algorithm using Hidden Markov Models to precisely detect initiation of finger taps in noisy strain gauge time series data

Industry Experience

Mar. 2021 – Present — **Unforged** *Data Science and Machine Learning*

- Lead specification and implementation of data science infrastructure for adolescent mental wellness platform (e.g., personalization, content moderation)

June 2017 – June 2019 — **Legendary Entertainment / Warner Media** *Senior Quantitative Analyst*

- Developed speech and language feature-extraction tools to model the relationship between thematic content in movie trailers and effects on Wikipedia web traffic
- Optimized interest segment targeting on Facebook using contextual-bandits
- Programmed an interactive tool to extract book titles mentioned on Reddit, scrape metadata from an online reading database, and visualize demographic-level trends

July 2016 – Dec. 2016 — **True Fit** *Scientist (Co-op)*

- Designed a robust anomaly detection system to capture fraudulent retail transactions, reducing noise by 10% in recommendation engine training data

July 2015 – July 2016 — **Legendary Entertainment** *Quantitative Researcher (Co-op and Consultant)*

- Led R&D of a conditional random field model for end-to-end named entity recognition on Twitter, allowing for dynamic query filtering based on fluctuations in popularity

Selected Publications

Harrigian, K. & Dredze, M. "The Problem of Semantic Shift in Longitudinal Monitoring of Social Media." *In Proceedings of the 14th ACM Web Science Conference*. 2022.

Harrigian, K., Aguirre, C., & Dredze, M. "Do Models of Mental Health Based on Social Media Generalize?" *In Proceedings of the Conference on Empirical Methods in Natural Language Processing (EMNLP): Findings*. 2020.

Harrigian, K. "Geocoding Without Geotags: A Text-based Approach for reddit." *In Proceedings of the 4th Workshop on Noisy User-generated Text (EMNLP)*. 2018.

Selected Honors and Awards

Oct. 2016	*Rhodes Scholar Nominee* | *Marshall Fellowship Finalist* Nominated by faculty for outstanding academic merit and ambassadorial ability
Apr. 2016	*Outstanding Student Research Winner (Computer and Information Sciences)* Best undergraduate poster in Computer and Information Science at Northeastern RISE 2016

Technical Skills

Programming Languages	Python, Bash, SQL, R, Stan, MATLAB, C
Computing Libraries	pandas, NumPy, SciPy, Matplotlib, PyTorch, scikit-learn, Gensim, tomotopy, NLTK