

Contact

Drexel University
 Department of Information Science
 College of Computing and Informatics
 30 North 33rd Street
 Philadelphia, PA 19104

Research: intersections of natural language processing, artificial intelligence, and quantitative linguistics, and applications to social sciences and other big data.

Homepage: <https://jakerylandwilliams.github.io/>

Email: Jake[dot]Williams[at]drexel[dot]edu

Education

Ph.D., Mathematical Sciences, UVM	2015
Certificate of graduate study in complex systems, UVM	2012
M.S., Mathematics, UVM	2011
B.A., Physics, UVM	2007

Press

[Tips For Detecting The Use Of AI-Generated Text](#) The 17th Philly ETE Developer's Conference (2023).

[Is ChatGPT really the end of education?](#) KYW Newsradio In Depth Podcast (2022).

[Tackling Housing Displacement with Data Science.](#) Stories at Drexel CCI (led by Amy Gottsegen, 2017).

Selected Works

[Explicit Foundation Model Optimization with Self-Attentive Feed-Forward Neural Units](#)

J. R. Williams and H. Zhou.

Arxiv Preprint (2023).

[Bit Cipher – A Simple yet Powerful Word Representation System that Integrates Efficiently with Language Models](#)

J. R. Williams and H. Zhou.

Arxiv Preprint (2023).

[Reducing the Need for Backpropagation and Discovering Better Optima With Explicit Optimizations of Neural Networks](#)

J. R. Williams and H. Zhou.

Arxiv Preprint (2023).

[Which tweets 'deserve' to be included in news stories? Chronemics of tweet embedding](#)

M. I. Mujib, A. Zelenkauskaitė, and J. R. Williams.

Presented at the 56th Hawaii International Conference on System Sciences (2023).

[To Know by the Company Words Keep and What Else Lies in the Vicinity](#)

J. R. Williams and H. S. Heidenreich.

Arxiv Preprint (2022).

[The Earth Is Flat and the Sun Is Not a Star: The Susceptibility of GPT-2 to Universal Adversarial Triggers](#)

H. S. Heidenreich and J. R. Williams.

Presented at the Fourth International AAI/ACM Conference on Artificial Intelligence, Ethics and Society (2021).

Higher education employment

Assistant–Associate Professor, Department of Information Science, Drexel University **2016–2022–**

Courses teaching/taught:

Deep Learning's Side Effects (Drexel INFO 873) Winter 2023

Data Science Readings Reproducibility (Drexel DSCI T-780) Winter 2022

Natural Language Processing with Deep Learning (Drexel DSCI 691) Spring 2021, 2022, 2023

Data acquisition and pre-processing (Drexel DSCI 511) Fall 2018–2021; Spring 2019

Methods for analysis and interpretation (Drexel DSCI 521) Winter 2019–2021, 2023

Foundations of Data Science (Drexel INFO 825) Winter 2018; Spring 2020; Fall 2022

Introduction to Data Science (Drexel INFO 103) Spring 2018

Perspectives on Information Systems (Drexel INFO 540) Fall 2017

Introduction to data science (Drexel INFO 240) Winter, Spring 2017

Course development:

Deep Learning's Side Effects (Drexel INFO 873)	Winter 2023
Data Science Readings Reproducibility (Drexel DSCI T-780)	Winter 2022
Natural Language Processing with Deep Learning (Drexel DSCI 691)	Spring 2021
Methods for analysis and interpretation (Drexel DSCI 521)	Fall 2018
Data acquisition and pre-processing (Drexel DSCI 511)	Summer 2018
Foundations of Data Science (Drexel INFO 825)	Fall 2017
Introduction to Data Science (Drexel INFO 103)	Fall 2016

Postdoctoral Researcher, School of Information, UC Berkeley **2015–2016**

Faculty Instructor, School of Information, UC Berkeley **2015**

Courses taught:

Machine Learning at Scale (UC Berkeley DATASCI W261) 2015

Graduate Research Assistant, Department of Mathematics, University of Vermont (UVM) **2009–2015**

Graduate Teaching Fellow, Department of Mathematics and Statistics, UVM **2009–2014**

Courses taught:

College Algebra (UVM MATH 009)	(seven semesters) 2009–2014
Calculus with Applications (UVM MATH 019)	2012
Applications of Finite Math (UVM MATH 017)	2011
Guest lecturer, Principles of Complex Systems (UVM MATH 300)	2012, 2013
Guest lecturer, Linear Algebra (UVM MATH 124)	2011

Recent Support

Title: LIS Education And Data Science-Integrated Network Group

Lead Institution PI: J. Greenberg, Drexel University

Prime Sponsor: Institute of Museum and Library Sciences

Period: November 1, 2020–October 31, 2023

Award: \$887,154

Cost Share: \$421,246

Role: Co-PI

Title: Moderating Effects of Automation on Information Transmission in Social Forums

Lead Institution PI: J. R. Williams, Drexel University

Prime Sponsor: National Science Foundation

Period: June 1, 2020–May 31, 2021

Supplement: \$15,860

Period: June 1, 2019–May 31, 2021

Award: \$174,910

Role: PI

Selected Service

Provost's Office Working Group on the Education Impact of Artificial Intelligence, Information Science 2023

Reviewer, Annual Meeting of the Association for Computational Linguistics 2019–2021

Panelist, National Science Foundation 2019–2023

Tenure-Track Faculty Search Committee Member, Information Science 2019–2021, 2023 (Chair)

Reviewer, International Conference on Web and Social Media, 2018–2021

Reviewer, Conference on Empirical Methods in Natural Language Processing 2018–2021

Curriculum committee member and program developer, Drexel MSDS program 2017–2023