

Abram Handler

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Areas of interest

Information Systems • Natural language processing • Human–computer interaction • Machine learning

Education

2021 PhD in Computer Science, University of Massachusetts, Amherst

Thesis: Natural Language Processing for Lexical Corpus Analysis
Advisor: Brendan O'Connor

2018 M.S. in Computer Science, University of Massachusetts, Amherst

2014 M.S. in Computer Science, University of New Orleans
Advisor: Vassil Roussev

2007 B.A. in Philosophy, Columbia University

Publications: Information Systems

CONFERENCE PAPERS

Toward an Information Systems Ontology. Roland Müller, Sebastian Hüttemann, Kai R. Larsen, Sen Yan and Abram Handler. *DESRIST*, 2022.

Publications: Computer Science

Computer science papers are often published at conferences, rather than in journals. EMNLP and NAACL are top conferences in natural language processing. ACM TiiS is a journal focused on user-facing artificial intelligence.

JOURNAL AND CONFERENCE PAPERS

ClioQuery: Interactive Query-Oriented Text Analytics for Comprehensive Investigation of Historical News Archives. **Abram Handler**, Narges Mahyar, Brendan O'Connor. *ACM Transactions on Interactive Intelligent Systems (TiiS)*, 2022. **Best paper of 2022, runner up**

Query-focused Sentence Compression in Linear Time. **Abram Handler** and Brendan O'Connor. *EMNLP*, 2019.

Investigating Sports Commentator Bias within a Large Corpus of American Football Broadcasts. Jack Merullo, Luke Yeh, **Abram Handler**, Alvin Grissom II, Brendan O'Connor and Mohit Iyyer. *EMNLP*, 2019.

Relational Summarization for Corpus Analysis. **Abram Handler** and Brendan O'Connor. *NAACL*, 2018.

Identifying civilians killed by police with distantly supervised entity-event extraction. Katherine Keith, **Abram Handler**, Michael Pinkham, Cara Magliozzi, Joshua McDuffie, and Brendan O'Connor. *EMNLP*, 2017.

WORKSHOP PAPERS

In computer science, workshop papers undergo light peer review. Admission to workshops is less competitive than admission to main conferences.

Rookie: A unique approach for exploring news archives. **Abram Handler** and Brendan O'Connor. *Data Science + Journalism workshop at KDD*, 2017.

Bag of What? Simple Noun Phrase Extraction for Text Analysis. **Abram Handler**, Matthew J. Denny, Hanna Wallach, and Brendan O'Connor. *Text as Data*, 2016 and *NLP + Computational Social Science workshop at EMNLP*, 2016.

Visualizing textual models with in-text and word-as-pixel highlighting. **Abram Handler**, Su Lin Blodgett and Brendan O'Connor. *Workshop on Human Interpretability in Machine Learning at ICML*, 2016

PREPRINTS

Human acceptability judgements for extractive sentence compression. **Abram Handler**, Brian Dillon, Brendan O'Connor. *arXiv*, 2019.

Grants

- 2022 Abram Handler. \$5,000 in Amazon Cloud Credits, "Race to AWS Credits Grant." From Research Computing (Office of Information Technology), University of Colorado, Boulder.
- 2021 Brian Keegan and Abram Handler. \$6,500, "Payden Teaching Excellence Grant." From The College of Media, Communication and Information, University of Colorado, Boulder.
- 2018 Brendan O'Connor, Abram Handler, Brian Dillon, \$25,500 in crowd annotation credits), "Crowdsourced tree edit supervision for flexible sentence summarization and corpus exploration." From Figure Eight, Inc. through the AI for Everyone Challenge.
- 2015 Abram Handler, Steve Myers and Anne Mueller, \$35,500 "Semantic timeline maker." From the Knight Foundation through the Knight Foundation Prototype Fund. (Funded initial development of the ROOKIE system.)

Awards

- 2022 **Best paper, runner up** ACM Transactions on Interactive Intelligent Systems
- 2020 **Outstanding reviewer award** at ACL and EMNLP conferences
- 2018 **Best reviewer award** at EMNLP conference (top 7%)
- 2015 **Excellence in journalism award**, New Orleans Press Club
- 2007 *Magna cum laude*, Columbia University

- 2006 **Oxbridge scholars program**, Columbia University – Cambridge University
- 2003 **John Jay Scholar**, Columbia University
- 2003-2007 **Dean's list**, Columbia University (five semesters)

Teaching

UNIVERSITY OF COLORADO, BOULDER, LEEDS SCHOOL OF BUSINESS

- 2024 MSBX 5425 Natural Language Processing for the Health Sciences
- 2023 BAIM 3220 Introduction to Python Programming (four sections)

UNIVERSITY OF COLORADO, BOULDER, DEPARTMENT OF INFORMATION SCIENCE (INFO)

- 2022 INFO 2301 Quantitative reasoning
- INFO 4602/5602 Information visualization
- 2021 INFO 2301 Quantitative reasoning (delivered twice in 2021)
- INFO 3401 Information exploration
- INFO 4604/5604 Applied machine learning (delivered twice in 2021)
- INFO 3402 Information exposition
- INFO 4700 Senior capstone
- 2020 INFO 2301 Quantitative reasoning
- INFO 3401 Information exploration
- INFO 4604 Applied machine learning

UNIVERSITY OF MASSACHUSETTS, AMHERST • MANNING COLLEGE OF INFORMATION AND COMPUTER SCIENCES

- 2019 Classroom instructor, Ethics and Artificial Intelligence (four sections)
- 2018 - 2019 Student advisor, UMass Industry Mentorship Program (two semesters)
- 2017 Summer graduate coordinator for the REUMass program for undergraduate researchers
- 2016-2018 Teaching assistant for graduate courses in graphical models and natural language processing (three semesters)

Invited talks and other presentations

Data visualization is different in virtual reality

- 2024 Texas Tech University (via Zoom)

Natural language processing can help estimate causal parameters in regression models

- 2023 Front Range Information Systems Seminar, University of Colorado, Colorado Springs

Designing the ClioQuery Text Analytics System

- 2022 Leeds School of Business, University of Colorado, Boulder

Using Phrases for Corpus Analysis

- 2022 Online tutorial series, [NLP+CSS 201: Beyond the Basics](#), Virtual

Natural Language Processing for Lexical Corpus Analysis

- 2021 Lab meeting, Natural Language Processing Group (CompSem), University of Colorado, Boulder

Natural Language Processing for Corpus Analysis

- 2020 Seminar, Department of Information Science, University of Colorado, Boulder
- 2020 Lab meeting, Natural Language Processing Group (CompSem), University of Colorado, Boulder

Software Projects and Artifacts

- 2020-present **CanvasCLI**
An opinionated command-line interface for the Canvas learning management system.
<https://github.com/AbeHandler/CanvasCLI>
- 2020 **wmasscovid.com**
A website offering automatically-updated COVID statistics for Western Massachusetts. The site received thousands of visitors during the first months of the COVID pandemic.
- 2016 **Phrasemachine**
A Python package for finding phrases, with hundreds of users from around the world.
<https://github.com/slanglab/phrasemachine>
- 2014-2015 **Live election maps**
Leader of technical team which produced the first three live election maps in Louisiana.
<http://elections.thelensnola.org>
- 2014 **Document Cloud (Doc Split)**
Open source contributor: added support for the Tesseract rotation detection plugin.
<https://www.documentcloud.org>

Work Experience

- 2022-present **University of Colorado**, Assistant Professor, Leeds School of Business, Boulder, CO
- Tenure-track faculty member with the Organizational Leadership and Information Analytics group.
- 2020-2022 **University of Colorado**, Instructor, Department of Information Science, Boulder, CO
- Instructor of record for three courses each semester (see [Teaching](#) section).
- 2015-2020 **University of Massachusetts**, Research assistant and teaching assistant, Amherst, MA
- Conducted both individual and group research projects as member of SLANG lab.
- 2019 **BuzzFeed**, Data science intern, New York, NY
- Contributed to internal API for analyzing user comments.
- Developed a new method for detecting entity aliases, using comment data.
- 2018 **Agolo**, Natural language processing research intern, New York, NY
- Implemented state-of-the-art sentence compression technique in PyTorch.
- Developed a new method for summarizing entity relationships in news corpora.
- 2014-2015 **The Lens**, Software developer and data journalist, New Orleans, LA
- Cofounder and technical leader of news applications team.
- Produced interactive web stories.
- Analyzed heterogeneous textual records to programmatically identify corruption.
- 2013 **C4 Tech and Design**, Software developer, New Orleans, LA
- Worked as full-stack web developer using PHP, Git, Drupal, Javascript, CSS and HTML.
- 2011-2013

Louisiana Office of Public Health (Acadiana CARES), Software developer, New Orleans, LA
- Successfully refactored a mission-critical system for collecting and monitoring electronic lab reports.

2010 **Jefferson Parish Public Schools**, Digital Opportunity Trust intern, Gretna, LA
- Helped develop a new personnel system in PHP, SQL, CSS, HTML and JavaScript.

2007-2009 **The Bronx Defenders**, Investigator, Bronx, NY
- Assisted attorneys at a *pro bono* legal clinic.

2006 **Benenson Strategy Group**, Intern, Manhattan, NY
- Taught myself to program by automating routine tasks in Microsoft Excel.

Professional Service

Committee Member

Leeds School of Business, University of Colorado, Boulder
PUEC committee member (2023), Hiring committee member (2022)

Department of Information Science (INFO), University of Colorado, Boulder

As a member of INFO's Academic Review and Planning Advisory Committee (2021), I was responsible for collecting and presenting information about the INFO's undergraduate course offerings as part of the Department's seven-year program review. Undergraduate Committee member (2020-2021).

Area Chair

EMNLP (2023)

Reviewer

EMNLP (2017-2021), ACL (2019-2021), ACL ARR (2021,2022), NAACL (2019,2021), AACL (2020), WNUT (2019), New Frontiers in Summarization (2019, 2021), ICWSM (2018-2020), ACM TOIS (2022), MIS Quarterly (2022), ICIS (2022)

Graduate Coursework

Machine Learning, Natural Language Processing, Deep Learning, Advanced Algorithms, Theory of Computation, Graphical Models, Reinforcement Learning, Programming Languages, Statistical Machine Learning.