

# Allison Morgan

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## RESEARCH INTERESTS

Computational Social Science, Social Networks, Social Inequality, Machine Learning

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## EDUCATION

### University of Colorado at Boulder

Boulder, CO

*Doctor of Philosophy in Computer Science (Expected 2021)*

*August 2016 – Present*

- **Advisor:** Aaron Clauset
- **Relevant Coursework:** Network Analysis & Modeling, Machine Learning, Information Visualization, Chaotic Dynamics, Natural Language Processing, Algorithms

### Reed College

Portland, OR

*Bachelor of Arts in Physics; Academic Commendations 2012–2014*

*August 2010 – May 2014*

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## APPOINTMENTS

### University of Colorado at Boulder

Boulder, CO

*Graduate Research Assistant, Computer Science Department*

*August 2016 - Present*

### Lytics (marketing technology start-up)

Portland, OR

*Data Scientist*

*August 2014 - June 2016*

### Reed College

Portland, OR

*Undergraduate Research Assistant, Physics Department*

*Summer 2013*

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## PUBLICATIONS

S. F. Way, **A. C. Morgan**, A. Clauset, and D. B. Larremore, “The misleading narrative of the canonical faculty productivity trajectory” *Proceedings of the National Academy of Sciences, PNAS*, **114**(44), E9216–E9223 (2017)

J. Franklin, Y. Guo, A. McNutt, and **A. Morgan**, “Newton-Schrödinger System with Self-Field Coupling” *Classical and Quantum Gravity*, **35** 065010 (2015) (Listed alphabetically)

**A. Morgan**, “Relativistic Strings & Ehrenfest’s Paradox” Undergraduate Thesis. Reed College (2014)

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## UNDER REVIEW

**A. C. Morgan**, S. F. Way, and A. Clauset, “Automatically assembling a full census of an academic field”

A. Filippova, C. Gilroy, R. Kashyap, A. Kirchner, **A. C. Morgan**, K. Polimis, and T. Wang, “Humans in the Loop: Priors and Missingness on the Road to Prediction” (Listed alphabetically)

**A. C. Morgan**, D. Economou, S. F. Way, and A. Clauset, “Prestige drives epistemic inequality in the diffusion of scientific ideas” (Co-first author)

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## IN PREPARATION

S. F. Way, **A. C. Morgan**, D. B. Larremore, and A. Clauset, “The Effects of Departmental Prestige on Researcher Productivity and Prominence”

## POPULAR PRESS

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D. B. Larremore, **A. C. Morgan**, and A. Clauset, “More Inclusive Scholarship Begins With Active Experimentation” *The Chronicle of Higher Education* (2017), [Link]

**A. C. Morgan**, “The Netrrability is a Newsigation of Exactual” *Towards Data Science* (2017) [Link]

**A. C. Morgan** “NOT Yet Another Anomaly Detection Package” *Lytics Developer Blog* (2015) [Link] (Featured in the front page of HackerNews on August 13th, 2015)

*More work can be found on Medium, and the Lytics Developer Blog.*

## PRESENTATIONS

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**International Conference on Network Science (NetSci), June 2017:** “Ideas worth spreading: How does network position influence the spread of research topics?”

**Colorado NCWIT Aspirations in Computing Award Event, April 2017:** Women in Tech Panelist

## WORKSHOPS

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**Summer Institute in Computational Social Science (SICSS) at Princeton University, June–July 2017:** Participant. Fully-funded by the Russell Sage Foundation with a roughly 11% acceptance rate.

## PROJECTS

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### University of Colorado at Boulder

August 2016 - Present

- **Automatically Assembling a Full Census of an Academic Field:** Wrote a web crawler capable of collecting longitudinal data on faculty hiring, which will be used to understand the complex and dynamic interactions between faculty hiring and observed patterns of inequality.
- **Modeling the Spread of Research Ideas:** Approximated the exchange rates between research quality, network influence, and institutional prestige. Tested causal hypothesis – faculty hiring acts as a conduit for ideas spreading – using numerical simulations.
- **Predicting Google Search Trends:** Used techniques from non-linear time series analysis and dynamical systems to predict Google search interest. [Code]
- **Extracting Employment and Publication Information from CVs:** Ongoing project extracting structured text from semi-structured PDFs. Data will be used to study scholarly productivity and employment.

### Reed College

Summer 2013

- **Computational Quantum Mechanics and General Relativity Research:** Computed bound state energy solutions to Schrödinger’s equation for a potential due to gravity using 4th order Runge-Kutta in Mathematica.

### Lytics

August 2014 - June 2016

- **Anomalyzer:** Open source software for anomaly detection in marketing trends, written in Go. [Code]
- **Multibayes:** Open source implementation of a Naive Bayesian classifier in Go. [Code, Post]
- **Content Recommendation:** Integrated customer data platform and third party services to classify the content users viewed. [Post]

## SERVICE

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**SICSS at University of Colorado Boulder, Expected Summer 2018:** Co-organizer

**International AAAI Conferece on Web and Social Media (ICWSM) 2017:** Subreviewer

**The Web Conference (WWW) 2018:** Subreviewer

**Special Issue of Socius: Fragile Families Challenge 2017:** Reviewer

## RELEVANT SKILLS

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**Data science:** Data/text mining, social network analysis, machine learning, software engineering, written scientific communication, data visualization

**Languages:** Python, Go, R, Mathematica, HTML/CSS

**Databases:** Elasticsearch, MongoDB, SQL

**Design:** D3, Tableau

## OTHER ACTIVITIES

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**NCWIT Aspirations in Computing, January 2017–Present:** Member

**Reed College's Women in STEM group (STEMfemmes), August 2013–May 2014:** Founder

**Oregon Museum of Science and Education, May–August 2013:** Physics Science Education Intern

**Reed College's Physics Department, August 2011–May 2014:** Teaching assistant, grader, drop-in center and individual tutor for introductory physics, quantum mechanics, oscillations and waves, and computational physics classes