

Jennifer A. Stark, PhD

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Profile

My goal is to deliver value from data by supporting data-driven opportunities, data analysis, building and deploying models, and communicating data insights and recommendations.

Selected Technical Skills

Data Engineering: Build data pipelines with Google Cloud Platform, Apache Beam, MySQL, GoCD

Data Science: Conduct reproducible analysis and build models using Jupyter Lab, Conda, statsmodels, SciPy, sklearn, openCV, keras, TensorFlow, NLTK, SpaCy, networkx, Prophet

Data Visualisation: CARTO, D3.js, DC.js, Matplotlib, Seaborn

Web: HTML/CSS with Bootstrap templates, Flask/Jinja2, JavaScript

Other: QGIS, AWS, Git/GitHub

Selected Education

Certificate, Data Science General Assembly, Washington, DC, USA	2015
Master of Professional Studies, Information Visualisation Maryland Institute College of Art, Baltimore, MD, US	2014
Doctor of Philosophy, Neuroscience The University of Manchester, Manchester, UK	2006

Selected Employment

Data Engineer & Analyst SpareRoom (Flatshare Ltd) <i>Reporting to the board of Directors</i> <ul style="list-style-type: none">• Build data pipelines (MySQL, Apache Beam, & Google Cloud Platform PubSub, BlgQuery, Dataflow)• Improve decision-making capabilities of the business using data• Research opportunities and approaches to leverage machine learning within the business• Support the development of a data driven culture within the business.	July 2018–present
Research Scientist / Post-Doctoral Researcher Computational Journalism Lab, University of Maryland, College Park, MD <i>Under the direction of Assistant Prof. Nicholas Diakopoulos</i> <ul style="list-style-type: none">• Developed methods to examine and assist in algorithmic accountability and transparency.• Presented talks, workshops at national and international conferences.	2016–Oct 2017

Selected Projects, Presentations, and News Articles

Thinking About Algorithmic Transparency [[Slides](#)][[Conference](#)]

Presented my research on algorithmic accountability reporting, with a case study illustrating the contribution of complex societal systems to biased algorithmic outcomes.

Using Baselines for Algorithm Audits [[Slides](#)]

Communicated the impact of an appropriate baseline to tell a meaningful story, illustrated using our 2016 US elections study on potential bias in presidential candidate images in Google Search.

“Uber seems to offer better service in areas with more white people. That raises some tough questions” [[Washington Post Article](#)][[GitHub Repo](#)]

Visualising Human Neuroimaging Data (master’s thesis) [[Visualisation](#)]

Interactive visualisations to compare data quality between two data collection methods of 3D time series data. Network analysis methods included correlation strength between nodes and network clustering using Dirichlet Process Gaussian Mixture Modelling to identify transient networks.

Other Experience

- **Dec 2018:** Presented at [MancML](#) “Agent Based Models: How can we use them?” on opportunities for using agent-based models to complement machine learning / big data.
 - **June 2018–present:** Co-organiser of Manchester chapter of PyData (<https://pydata.org/>)
 - **September 2018:** Commenced 3-year term as Alumna representative on the University of Manchester General Assembly and on the Alumni Association Advisory Board.
 - **2017 SRCCON,** facilitated “Code review strategies when you’re on a team vs. code solo” [[Link](#)]
 - **2016 / 2017:** Assistant for Python bootcamp for computational journalism course.
 - **2016 FAT/ML** Fairness, Accountability & Transparency in Machine Learning, & Data Transparency Lab, at NYC – *attended* [[Link](#)]
 - **2016 PyDataDC** conference hosted by Capital One, McLean, VA – *presented* [[Slides](#)][[YouTube](#)]
 - **National Civic Hack Day 2016,** lead “There’s an API for That” tutorial on using APIs and Python.
 - **May 2015–Aug 2015:** Python Lead with Women Who Code DC.
 - **2013-2015:** Direct the Maryland Neuroimaging Center Student Users meeting (incl. organise analysis workshops and lead a 3-month Python “Coding-Hour” program).
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Publications & Presentations

Keynote Speaker

Coda•Br 2017 data journalism conference, Sao Paulo, Brazil, “Thinking About Algorithmic Transparency”, [[Conference](#)][[Slides](#)]

Invited Talks

J. AARP National Policy Council, 2016, on Uber service quality in neighbourhoods of colour.

Book Chapters

N. Diakopoulos, D. Trielli, **J. Stark**, S. Mussenden (2018). I vote for – how search informs our choice of candidate. In: [Digital Dominance: The Power of Google, Amazon, Facebook, and Apple](#). Oxford University Press. [[Link](#)]

Refereed Data Journalism Conference Papers

D. Trielli, **J. Stark** and N. Diakopoulos. Algorithms Tips: A Resource for Algorithmic Accountability in Government. Proc. Computation + Journalism Symposium 2017. [[Abstract](#)][[Algorithm Tips](#)][[Conference](#)]

J. A. Stark and N. Diakopoulos. Using Baselines for Algorithm Audits. Proc. European Data and Journalism Conference. July 2017. [[Abstract](#)] [[Conference](#)]

J. Stark and N. Diakopoulos. Towards Editorial Transparency in Computational Journalism. Proc. Computation + Journalism Symposium. September, 2016. [[Abstract](#)] [[Conference](#)]

News Articles

D. Trielli, S. Mussenden, **J. Stark**, N. Diakopoulos. Googling Politics: How the Google issue guide on candidates is biased. Slate. June, 2016. [[Link](#)]

J. Stark and N. Diakopoulos. Uber seems to offer better service in areas with more white people. That raises some tough questions. The Washington Post. March 10th, 2016. [[Link](#)]

Panels

N. Diakopoulos, **J. Stark**, J. Larson. Algorithmic Accountability: Case Studies From The Field. National Institute for Computer Assisted Reporting (NICAR), 2016. [[Link](#)]