Jeffrey Power Jacobs

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EMPLOYMENT

Georgetown University — Washington, DC, USA
Assistant Teaching Professor, Data Science and Analytics — Aug 2023 – Present

EDUCATION

Columbia University — New York, NY, USA
PhD in Political Science — Sep 2022
MA, MPhil in Political Science — May 2016, May 2018

Stanford University — Palo Alto, CA, USA
MS in Computer Science — May 2014

University of Maryland — College Park, MD, USA
BS in Mathematics, BS in Computer Science, BA in Economics — May 2012

DISSERTATION

"Our Word is Our Weapon": Text-Analyzing Wars of Ideas from the French Revolution to the First Intifada
Committee: Suresh Naidu (Chair), Jon Elster, Naoki Egami, Nadia Urbinati, Alexander Gourevitch (Brown University), William Clare Roberts (McGill University)

PEER-REVIEWED PUBLICATIONS

[1] E. Ash, **J. Jacobs**, B. MacLeod, S. Naidu, D. Stammbach. "Unsupervised Extraction of Workplace Rights and Duties from Collective Bargaining Agreements." *Proceedings of the 20th IEEE International Conference on Data Mining – International Workshop on Mining and Learning in the Legal Domain (ICDM-MLLD)*. 2020.

[2] A. Dube, **J. Jacobs**, S. Naidu, S. Suri. "Monopsony in Online Labor Markets." *American Economic Review: Insights*, (2)1: 33-46. 2020.

[3] **J. Jacobs**. "How to Do Things with Translations: Cross-Lingual Phrase Embeddings for Translation Analysis." *Ninth Annual Conference on New Directions in Analyzing Text as Data (TADA)*. 2018.

[4] D. Shahaf, J. Yang, C. Suen, **J. Jacobs**, H. Wang, J. Leskovec. "Information Cartography: Creating Zoomable, Large-Scale Maps of Information." *Proceedings of the ACM International Conference on Knowledge Discovery and Data Mining (KDD)*, 1097-1105. 2013.

[5] C. Duan, H. Gao, **J. Jacobs**, W. Wu. "Metaheuristic Approaches to Resource Scheduling in Heterogeneous Wireless Networks." *Joint Mathematics Meetings (JMM)*. 2012.

[6] **J. Jacobs**, J. Reggia. "Evolving Musical Counterpoint: The Chronopoint Genetic Algorithm." *Proceedings of the 2011 IEEE Congress on Evolutionary Computation*, 11-16. 2011.

OTHER PUBLICATIONS

J. Jacobs, S. Naidu. "Power in Equilibrium: An Economic Measure of Secured Non-Domination." In *Liberty: Philosophical, Political, and Economic Perspectives* (forthcoming), Cambridge University Press. 2023.

J. Jacobs. "Automated Content Analysis and the 1789 *Cahiers de Doléances.*" *Phenomenal World* Blog, Jain Family Institute. 2022. https://phenomenalworld.org/

TEACHING EXPERIENCE

Georgetown University

DSAN 5000: Data Science and Analytics — Fall 2023
DSAN 5100: Probabilistic Modeling and Statistical Computing — Fall 2023

New York University

DSUA 111: Data Science for Everyone	Spring, Summer-I, Summer-II, Fall 2020

Columbia University

QMSS 5067: Natural Language Processing for the Social Sciences	Summer 2021
HRTS 3001: Introduction to Human Rights	Spring 2021
POLS 4700: Mathematical Methods for Political Science	Fall 2018
POLS 4710: Principles of Quantitative Political Research	Fall 2017
POLS 1201: Introduction to American Politics	Fall 2016

Stanford University

CS 109: Probability Theory for Computer Scientists	Winter 2014, Spring 2014
CS 103: Mathematical Foundations of Computing	Autumn 2012, Winter 2013, Autumn 2013
CS 221: Artificial Intelligence Principles and Techniques	Summer 2013
CS 90SI: Code the Change: Learn Web Development Through Non-Profit Projects	Autumn 2013

University of Maryland

CMSC 420: Data Structures	Spring 2012
CMSC 250: Discrete Mathematics	Fall 2011
MATH 003: Developmental Mathematics	Fall 2010, Spring 2011
CMSC 132: Object-Oriented Programming II	Spring 2010

Workshops/Short Courses

Jain Family Institute Seminar	New York, NY
Let's Get Free: A Gentle Introduction to Analytical Political Theory	(Postponed to 2023)

    (Postponed due to COVID-19, draft of lecture notes available on [GitHub](#))

Code for Palestine Summer Courses	West Bank & Gaza, Occupied Palestinian Territories
Mobile App Development with React Native	Summer 2022
Design Thinking for Mobile App Development	Summer 2019
Web Development with Flask and MySQL	Summer 2018
Mobile App Development with Android Studio	Summer 2017

Stanford Splash! Program	Palo Alto, CA, USA
Game Theory and Mechanism Design	Autumn 2013, 2014
Pledge No Allegiance: America Through A Hip Hop Lens	Autumn 2014

Previous Employment

Columbia University Department of Economics	New York, NY, USA
Research Assistant, Columbia TextLab, Data Science Institute	Jan 2021 – Jul 2023
NYU Center for Data Science (CDS)	New York, NY, USA
Curriculum Development Fellow, Adjunct Instructor	Jan 2020 – Dec 2020
Columbia School of International and Public Affairs (SIPA)	New York, NY, USA
RA, Institute for Social and Economic Research and Policy (ISERP)	Jan 2016 – Dec 2019

University of California, Berkeley
Research Data Analyst, Dept. of Economics & Haas School of Business

Berkeley, CA, USA
Jun 2014 – Jun 2015

Stanford University Department of Economics
Research Assistant, Development Economics Group

Palo Alto, CA, USA
Sep 2013 – Jun 2014

Stanford University Computer Science Department
Research Assistant, Stanford Network Analysis Project (SNAP)

Palo Alto, CA, USA
Sep 2012 – Apr 2013

National Institute of Standards and Technology (NIST)
Summer Research Fellow, Quantum Communications Lab

Gaithersburg, MD, USA
May 2012 – Aug 2012

University of Maryland Dept. of Computer Science
Research Assistant, Algorithms and Theory Group

College Park, MD, USA
Aug 2011 – Aug 2012

Hong Kong University of Science and Technology
Summer Research Fellow, Dept. of Mathematics

Clearwater Bay, Hong Kong
May 2011 – Aug 2011

University of Maryland Dept. of Computer Science
Research Assistant, Biologically-Inspired Computing Group

College Park, MD, USA
Aug 2010 – May 2011

University of Illinois at Urbana-Champaign
Summer Research Fellow, Brain-Computer Interface Lab

Urbana-Champaign, IL, USA
May 2010 – Aug 2010

WORKING PAPERS

"Threadsheets: An Interactive Visualization Tool for Data Concordance Analysis"
>   Submitted to *Journal of Statistical Software*, 2023

"Against Europe's Dangerous Creation Myth: How Decolonization and the Cold War Shaped the EU"
>   with Katie Ebner-Landy, Harvard University

"Quantifying Cultural Diplomacy: Soviet-Third World Ideological Interventions"
>   (Working draft available upon request)

"Counterfactual Document Generation for Causal Inference Using Text Data"
>   with Thomas Leavitt, Columbia University

"`scipot`: Topic Modeling in Reverse for Synthetic Document Generation"
>   GitHub Homepage: scipot.github.io

INVITED TALKS

"How to Do Things with Translations: Cross-Lingual Semantic Phrase Embeddings for Translation Analysis"
>   *Theories of Translation* Workshop, Ohio State Univ., Columbus, OH, USA   Feb 2021

""Our Word is Our Weapon": Language, Resistance, and Revolution"
>   Columbia Natural Language Processing Lab, Columbia University, New York, NY, USA   Nov 2019

"Fi Hadal Habs: Text-Analyzing the Underground Communiques of the Palestinian Intifadas"
>   Critical Media and Digital Studies Workshop, Columbia University, New York, NY, USA   Oct 2018

"The Point is to Change It: Theoretical Innovation and Political Practice in the History of Marxism"
>   2018 Graduate Workshop in Computational Social Science, Santa Fe Institute, Santa Fe, NM, USA   Jun 2018

"Automated Content Analysis and the 1789 *Cahiers de Doléances*"

> 5th Annual Politics and History Conference, University of Barcelona, Barcelona, Spain Jun 2018

"Word Embeddings: Can Vectors Encode Meaning?"

> NYC Digital Humanities Week, Columbia University, New York, NY, USA Feb 2018

PROFESSIONAL SERVICE

Editorial Boards:

New translation of Karl Marx, *Capital, Vol. 1*, forthcoming, Princeton University Press Fall 2023

Program Committees:

ACL: Annual Meeting of the Association for Computational Linguistics

> Main Conference Jul 2023, Jul 2022, Jul 2020
> Student Research Workshop Jul 2023, May 2022, Jul 2020, Jul 2019

EACL: Conference of the European Chapter of the ACL Sep 2023

IC2S2: International Conference on Computational Social Science Jul 2023, Jul 2022

EMNLP: Empirical Methods in Natural Language Processing Sep 2022

ACL-IJCNLP: International Joint Conference on NLP

> Student Research Workshop Nov 2022, Aug 2021, Sep 2020

NAACL-HLT: NAACL Human Language Technologies

> Main Conference Jul 2022
> Student Research Workshop Jun 2021

SSCI: IEEE Symposium Series on Computational Intelligence Jun 2013

Discussant:

"Real-World Impacts of Political and Legal Texts", Princeton May 2017

AWARDS & ACHIEVEMENTS

Distinction in Quantitative Methods Field Exam, Columbia Political Science Dept.	Jan 2018
Departmental Honors, University of Maryland Department of Computer Science	May 2012
Departmental Honors, University of Maryland Department of Mathematics	May 2012
Senior Outstanding Achievement Award (4.0 major GPA), UMD Dept. of Econ.	May 2012
2011 Project of the Year, UMD QUEST Honors Program Senior Conference	Dec 2011
QUEST Business & Engineering Honors Fellow, Smith Sch. of Business	Aug 2009 – May 2012
Science, Technology, and Society Scholar, Clark School of Engineering	Aug 2008 – May 2012
Dean's List, College of Computer, Mathematical, and Natural Sciences	Aug 2008 – May 2012

TECHNICAL SKILLS

Languages: Python, R, Stata, JS/TS, HTML/CSS, PHP, Shell Scripting, SQL, MATLAB, Java, C, C++, Ruby

Frameworks/Packages:

Data Science: Pandas, Seaborn, tidyverse, ggplot2	**Deep Learning**: Huggingface Transformers, PyTorch
NLP: spaCy, Gensim, Stanza/CoreNLP, tidytext	**Machine Learning**: scikit-learn, e1071, DoubleML
Network Analysis: NetworkX, nxviz, Gephi, igraph	**Web Dev**: Node.js, React, D3, jQuery, Apache/Nginx
Cloud Computing: GCP, AWS (EC2, S3, Lambda)	**Misc**: Git, MongoDB, Qualtrics, VirtualBox, CUDA

LANGUAGES

[**Native**] English [**Working Proficiency**] Spanish [**Reading Proficiency**] German, French, Arabic, Russian

Suresh Naidu
Professor of Economics and Public Affairs
Columbia University
New York, NY, USA
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Jon Elster
Robert K. Merton Professor of the Social Sciences, Columbia University
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Naoki Egami
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