

# Kelsey D. Barton-Henry

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## EDUCATION

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- Dec 2019- Present **Researcher** *Current*  
Potsdam Institute for Climate Impact Research  
*Potsdam, Germany*
- Area of research: development of machine learning algorithms towards better understanding damage propagation
- July 2016 **Masters of Science in Economics and Finance**  
Barcelona Graduate School of Economics, Universitat Pompeu Fabra  
*Barcelona, Spain*
- Master's thesis: "The Real Price of Oil and Gas: Hydraulic Fracturing and Human Health"
  - Study emphases: Economics of Health and Development, Game Theory, Poverty and Inequality, Econometrics
- May 2014 **Bachelor of Arts in Economics**  
*Magna Cum Laude*, Honors in Economics  
Middlebury College, *Middlebury, Vermont, United States of America*
- Undergraduate Thesis: "Equal Land Rights and Outcomes for Women: Evidence from Ethiopia"
  - Study emphases: Microeconomics of Health, Game Theory, Statistics, Mathematics.
- June 2010 **International Baccalaureate Diploma**  
**United States' High School Diploma**  
Connecticut International Baccalaureate Academy  
*East Hartford, Connecticut, United States of America*
- Higher Level International Baccalaureate courses: Biology, English, History.
  - Valedictorian

## RESEARCH PRESENTATIONS

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*"The Real Price of Oil and Gas: Hydraulic Fracturing and Human Health"*  
Master's Thesis Defense, Barcelona Graduate School of Economics. June 10, 2016.

*"Equal Land Rights, Religion, and Outcomes for Women: Evidence from Ethiopia"*  
Annual Conference of the Association for the Study of Religion, Economics, and Culture, Boston, MA.  
March 20-21, 2015.

*"Equal Land Rights, Religion, and Outcomes for Women: Evidence from Ethiopia"*  
Undergraduate Thesis Defense, Middlebury College. April 24, 2014.

## WORK EXPERIENCE

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**Data Curriculum Owner**, Ironhack, SL. April 2019 - April 2020

- Design and construction of curriculum for the Data Analytics Bootcamp: an intensive 9 week course covering python programming, statistics and probability, and machine learning, with the goal of preparing students to begin careers as Junior Data Analysts.
- Creation of teaching materials for the Data Analytics program, including both content for lectures and practical applications via labs and projects.
- Management of hiring for Data Analytics Lead Teachers and Teaching Assistants, including conducting interviews, and developing and evaluating technical tests.

**Data Scientist**, AKTEK Ltd May 2018 - April 2019

- Construction of bespoke datasets and machine learning algorithms for clients seeking to organize, extract insights, and predict from data related to security and development in the Middle East, Africa, Latin America, and Eastern Europe.
- Development of hybridized NLP and classification algorithms for the detection of hate speech, extremism-related content, and Fake News in several languages.
- Development of algorithm for the identification of migrant boats on the Mediterranean using deep learning for object detection on satellite images.
- Quantitative analysis of said datasets and results of algorithms in Python.
- Presentation of results through reports and presentations to clients and stakeholders.

**Data Scientist**, NPAW (Nice People at Work, Inc.) September 2016 - April 2018

- Structured, developed, and implemented new software and capabilities for NPAW's BI tool, YouBora.
- Statistical analysis and modeling using Python, Java, and mySQL.
- Development, tuning, and application of machine learning algorithms to NPAW's data including:
  - real-time and historical data-based Anomaly Detection System.
  - predictive modeling of consumer churn; analysed importance of behavioral and quality metrics in users' likelihood of leaving.
  - hybridized recommendation algorithm to integrate context, content, and user information.
  - data analysis towards KPI reporting and creation; white paper research, analysis, writing.
  - statistical test creation for A/B Testing platform, SmartUsers.

**Research Assistant**, Economic Opportunity Studies, Washington, D.C.

Supervisor: Meg Power, Ph.D, June 2015- August 2015

- Provided research on energy efficiency improvements and government resources available to Community Action Agencies working to improve energy efficiency in low-income areas.
- Fostered partnerships between and coordinated across CAAs.
- Aided CAAs in interacting and utilizing relevant new federal policies and funding opportunities.

**Research Assistant**, University of Connecticut

Supervisor: Nishith Prakash, Ph.D. January 2015 - June 2015

- Assistance with research question development, identification strategy design, literature reviews, data collection, dataset construction, and statistical analysis of collected data.
- Structured and conducted quantitative analyses of voter and politician behavior, corruption, and development outcomes in India.

**Project Coordinator & Boundary Spanner**, University of Connecticut  
The Institute for Collaboration on Health, Intervention, and Policy (InCHIP);  
Supervisor: Jeffrey Fisher, Ph.D.

August 2014 - May 2015

- Research assistance for the study and scale-up of effective treatments for behavior-related barriers to health, especially in at-risk populations, including those in the developing world.
- Brokered partnerships between researchers across disciplines with similar or complementary interests.
- Worked closely with Principal Investigators to facilitate grant planning, application, and management for relevant deadlines.
- Independently planned and coordinated research collaborations and networking events with partner institutions.

## SKILLS

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- Python (pandas, NumPy, scikit-learn), Java, MySQL, Linux, Git/Bitbucket, STATA, R
- Machine Learning methodologies (NLP, Classification, Regression, Clustering)
- English, *Native*, Spanish, *Fluent*

## ACADEMIC REFERENCES

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**Leonie Wenz, Ph.D.**

Deputy Head of Research Department, *Complexity Science*  
Potsdam-Institute for Climate Impact Research  
[leonie.wenz@pik-potsdam.de](mailto:leonie.wenz@pik-potsdam.de); +49 331 288 2568

**Anders Levermann, Ph.D.**

Professor of Dynamics of the Climate System  
Head of Research Department *Complexity Science*  
Potsdam Institute for Climate Impact Research  
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## WORK REFERENCES

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**Juan Gonzalez Fraile, Ph.D.**

Data Science Lead, AKTEK Ltd  
[jgzfraile@gmail.com](mailto:jgzfraile@gmail.com); +34 670 56 01 19

**Jeffrey Fisher, Ph.D.**

Director, Institute for Collaboration on Health, Intervention, and Policy  
Board of Trustees Distinguished Professor of Psychology, University of Connecticut  
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