

Maria De-Arteaga

CONTACT INFORMATION	Austin, TX dearteaga@mcombs.utexas.edu mariadearteaga.com
CURRENT APPOINTMENT	University of Texas at Austin Austin, TX, USA July 2020 – Present <i>Assistant Professor</i> Information, Risk, and Operations Management Department McCombs School of Business
EDUCATION	Carnegie Mellon University Pittsburgh, PA, USA Aug 2014 – May 2020 <i>Ph.D., Machine Learning & Public Policy</i> — Doctoral Dissertation: <i>Machine Learning in High-Stakes Settings: Risks and Opportunities</i> — Advisors: Alexandra Chouldechova & Artur Dubrawski Carnegie Mellon University Pittsburgh, PA, USA Aug 2014 – May 2017 <i>Master of Science, Machine Learning</i> Universidad Nacional de Colombia Bogota, Colombia Aug 2008 – Aug 2013 <i>Bachelor of Science, Mathematics</i> Universidad Autónoma de Madrid Madrid, Spain Jan 2012 – Dec 2012 <i>Exchange student</i>
SELECTED PUBLICATIONS	R. Gao, M. Saar-Tsechansky, M. De-Arteaga , M. Lease, M.K. Lee, L. Han. <i>Human-AI Collaboration with Bandit Feedback</i> , In Proceedings of the International Joint Conference on Artificial Intelligence (IJCAI), 2021. N. Akpinar, M. De-Arteaga , A. Chouldechova. <i>The effect of differential victim crime reporting on predictive policing systems</i> In Proceedings of the ACM Conference on Fairness, Accountability, and Transparency (FAccT), 2021. M. De-Arteaga* , R. Fogliato*, and A. Chouldechova. <i>A case for humans-in-the-loop: decisions in the presence of erroneous algorithmic scores</i> . In Proceedings of ACM CHI Conference on Human Factors in Computing Systems (CHI), 2020. (*Indicates equal contribution) R. Fogliato*, M. De-Arteaga* , and A. Chouldechova. Lessons from the deployment of an algorithmic tool in child welfare. Fair & Responsible AI Workshop, CHI, 2020. (*Indicates equal contribution) A. Romanov, M. De-Arteaga , H. Wallach, J. Chayes, C. Borgs, A. Chouldechova, S. Geyik, K. Kenthapadi, A. Rumshisky, A. Kalai, <i>Whats in a name? Reducing bias in bios without access to protected attributes</i> , In Proceedings of the Conference of the North American Chapter of the Association for Computational Linguistics (NAACL), 2019. Best Thematic Paper . M. De-Arteaga , A. Romanov, H. Wallach, J. Chayes, C. Borgs, A. Chouldechova, S. Geyik, K. Kenthapadi, A. Kalai, <i>Bias in Bios: A Case Study of Semantic Representation Bias in a High-Stakes Setting</i> , In Proceedings of the ACM Conference on Fairness, Accountability, and Transparency (FAT*), 2019. N. Swinger*, M. De-Arteaga* , N. Heffernan IV, M. Leiserson, A. Kalai, <i>What are the biases in my word embedding?</i> , In Proceedings of the AAAI/ACM Conference on Artificial Intelligence, Ethics, and Society (AIES), 2019. (*Indicates equal contribution) M. De-Arteaga , J.Chen, P. Huggins, J. Elmer, G. Clermont, A. Dubrawski, <i>Predicting Neurological Recovery with Canonical Autocorrelation Embeddings</i> , PLoS ONE, 2019. M. De-Arteaga , A. Dubrawski, A.Chouldechova, <i>Learning under selective labels in the presence of expert consistency</i> , Workshop on Fairness, Accountability, and Transparency in Machine Learning (FAT/ML), ICML, 2018.

M. De-Arteaga, W. Herlands, D. Neill, A. Dubrawski, *Machine Learning for the Developing World*, ACM Transactions on Management Information Systems, 2018.

M. De-Arteaga, A. Dubrawski, *Discovery of Complex Anomalous Patterns of Sexual Violence in El Salvador*, Data for Policy, 2016. **1st Place Innovation Award on Data Science**.

W. Herlands, **M. De-Arteaga**, D. Neill, A. Dubrawski, *Lass0: Sparse Non-Convex Regression by Local Search*, Workshop on Optimization for Machine Learning, NIPS, 2015.

M. De-Arteaga, I. Eggel, C. Kahn, H. Müller, *Analyzing Image Search Behaviour of Radiologists: Semantics and Prediction of Query Results*, Journal of Digital Imaging, 2015.

M. De-Arteaga, I. Eggel, B. Do, D. Rubin, C. Kahn Jr. H. Müller, *Comparing Image Search Behaviour in the ARRS GoldMiner Search Engine and a Clinical PACS/RIS*, Journal of Biomedical Informatics, 2015.

GRANTS
& FUNDING

UT Austin Machine Learning Laboratory: Learning from Noisy and Biased Labelers towards Accuracy and Fairness goals. \$50,000 USD, 2021.
Co-Principal Investigator (with Maytal Saar-Tszechansky).

UT Austin Good Systems Grant: Designing Responsible AI Technologies to Curb Disinformation. \$750,000 USD, 2021-2027.
Senior Personnel (PI: Matt Lease).

Google Award for Inclusion Research: Who is Most Likely to Advocate for this Case? A Machine Learning Approach. \$60,000 USD, 2020.
Principal Investigator

Microsoft Research Dissertation Grant: Quantifying and Mitigating Risks of Algorithmic Decision Support. \$25,000 USD, 2018.
Principal Investigator

AWARDS

- *EECS Rising Stars, 2019.*
- *Best Thematic Paper Award, Conference of the North American Chapter of the Association for Computational Linguistics (NAACL), 2019.*
- *1st Place Innovation Award on Data Science, Data for Policy, 2016.*
- *Best Student Presentation Award, Domestic Nuclear Detection Office (DNDO) Academic Research Initiative Grantees Conference, 2015.*
- *2nd place Premio ¡Investiga! 2019, an award for Colombian investigative journalism.*
- *Grado de Honor, Universidad Nacional de Colombia, 2013.*

WORK
EXPERIENCE

Early SAS Bogota, Colombia <i>Co-founder & CTO</i> Social entrepreneurship focused on data-driven investigative journalism in Colombia.	Apr 2017 –
Microsoft Research Cambridge, MA, USA <i>Research intern</i>	May 2018 – Aug 2018
Microsoft Research Redmond, WA, USA <i>Research intern</i>	May 2017 – Aug 2017
Haute École Spécialise de Suisse Occidentale Sierre, Switzerland <i>Research intern</i>	Jun 2014 – Aug 2014
Quantil SAS Bogota, Colombia <i>Junior researcher</i>	Aug 2013 – Jun 2014
Connectas Bogota, Colombia <i>Investigative journalist</i>	Mar 2012 – Jun 2012
Publicaciones Semana - Especiales Regionales Bogota, Colombia <i>Journalist</i>	Aug 2010 – Dec 2011

University of Texas at Austin Austin, TX, USA
Instructor, MIS-304 Introduction to Programming and Problem Solving

Spring, Fall 2021

Universidad de los Andes Bogota, Colombia
Visiting Instructor, Intelligent Systems Architectures

Summer 2017

Carnegie Mellon University Pittsburgh, PA, United States
Teaching Assistant, Data Mining (95-791)

Fall 2016

Carnegie Mellon University Pittsburgh, PA, United States
Teaching Assistant, Machine Learning (10-601)

Spring 2016

Colombian Mathematical Olympiad (OCM) Bogota, Colombia
Instructor (number theory and combinatorics)

Jan 2010 – Aug 2010

INVITED TALKS

2021

MINDS CIS Seminar (Johns Hopkins), CAIS Symposium on Equity and AI (USC), Ethics in AI Seminar Series (UT Austin MLL & Good Systems), Workshop on Mathematics and Racial Justice (MSRI), AI Ethics & Society Seminar (University of Edinburgh).

2020

NeurIPS (ML Retrospectives Workshop), UMass Amherst (Machine Learning & Friends Seminar), MIT Lincoln Laboratory (*Keynote*, Hispanic Heritage Month), Facebook (*Keynote*, Responsible NLP Summit), WIDS Bogota (*Keynote*), Universidad Javeriana (*Keynote*, MSc Data Science Inaugural Event), INFORMS en Español, X4D Seminar Series, Universidad del Rosario (Tic Tank seminar), UT Austin Conference on the Ethics of AI, Australian National University (Data, AI, and Society Seminar Series), FUDAPROMAT Panama, University of San Francisco (Data Ethics Seminar, cancelled due to COVID-19), Cornell Information Science (Department Colloquia), Cornell Policy Analysis Management (Department Seminar), UC Santa Barbara (CS Department Seminar), Microsoft Research New England (MSR Seminar).

2019

UT Austin (IROM Department Seminar), University of Pittsburgh (Katz Department Seminar), CMU Software Engineering Institute (Lecture Series), Feria Digitech, IBM Research Africa (Africa Labs Deep Dive), Carnegie Mellon University (*Invited lecturer*, Computational Ethics in NLP course).

2018

INFORMS (Fairness and Transparency in Applied Operations Session), AMS Sectional Meeting (Special Session on Social Change In and Through Mathematics and Education), Google (Fairness in ML Workshop), Office of the Attorney General of Colombia (Lecture Series), UNESCO (*Closing Keynote*, Tech4Dev Conference, Data Science and Machine Learning for Development and Humanitarian Action Session), EPFL (CS Department Seminar), Google (Women in Tech Summit).

2017

Allegheny County Department of Human Service (DHS Speaker Series).

SELECTED PRESS

About my work

- MIT Technology Review - *Predictive policing is still racist—whatever data it uses*
- Motherboard (Vice) - *Algorithms Have Nearly Mastered Human Language. Why Cant They Stop Being Sexist?*
- VentureBeat - *Researchers Expose Biases in Datasets Used to Train AI Models.*
- Microsoft Research blog - *What are the Biases in my Data?*
- Microsoft Research blog - *Microsoft Research to Present Latest Findings on Fairness in Socio-technical Systems at FAT* 2019.*
- SciDev - *Machine Learning Targets Development Problems.*
- ZettaBytes (EPFL) - *Principles for Effective Machine Learning for Developing Countries.*
- Quartz - *The most Impactful AI Research isnt Happening in Silicon Valley.* (Features ML4D Workshop)
- Connectas - *Patrones matemáticos que ayudan a hacer mejor periodismo.*

Consulted as expert

- Quartz - *In a facial recognition bill backed by Microsoft, three words stand between citizens and their civil rights.*
- CNN - *Think your mask makes you invisible to facial recognition? Not so fast, AI companies say.*
- Quartz - *Amazon and Microsoft pause police facial recognition and demand regulation.*
- Quartz - *The influential project that sparked the end of IBM's facial recognition program.*
- The New York Times - *Many Facial-Recognition Systems Are Biased, Says U.S. Study.*
- New Scientist - *All-Seeing Eyes: The Epic Plan to Track Almost Everything on Earth.*

PROFESSIONAL
SERVICE

Organizing Committees

- Diversity, Equity and Inclusion co-Chair, ACM FAccT 2021-2022.
- Local Arrangements co-Chair, WITS 2021.
- Area Chair, ACM EAAMO 2021.
- Steering Committee Chair, ML4D 2020.
- Co-founder and co-organizer, Workshop series *Machine Learning for the Developing World (ML4D)* (NeurIPS 2017-2019).
- Co-organizer and program lead, CVPR Workshop *Computer Vision for Global Challenges* (2019).
- Co-founder, co-organizer: FEAT reading group and ML4D reading group at CMU.

Program committee

MD4SG 2020, AIES 2020, FAT* 2019.

Reviewer

Management Science, CSCW 2020, Journal of Digital Imaging (2016-2018), WiML NeurIPS 2017.

PROGRAMMING

Python, R, Matlab, L^AT_EX.