

Markelle Kelly

COMPUTER SCIENCE PH.D. CANDIDATE

markellekelly.com • email: markellekelly@gmail.com • github: @markellekelly

Research Interests

I am interested in the development of tools for more interpretable, interactive, and accountable machine learning; my research centers on understanding and improving human-machine interaction.

Education

PH.D. IN COMPUTER SCIENCE University of California, Irvine	<i>09/2020 – Present</i>
M.S. IN COMPUTER SCIENCE University of California, Irvine • 4.0 GPA	<i>09/2020 – 03/2022</i>
B.S. IN STATISTICS California Polytechnic State University, San Luis Obispo • 4.0 GPA	<i>09/2016 – 06/2020</i>

Experience

GRADUATE STUDENT RESEARCHER University of California, Irvine	<i>08/2020 – Present</i>
APPLIED RESEARCH INTERN: RESPONSIBLE AI eBay	<i>06/2024 – 09/2024</i>
DATA-CENTRIC ML INTERN Apple	<i>07/2023 – 10/2023</i>
RESEARCH ASSISTANT California Polytechnic State University, San Luis Obispo	<i>03/2019 – 06/2020</i>
SOFTWARE ENGINEER INTERN Project Jupyter	<i>03/2018 – 06/2020</i>

Publications

“Understanding Systematic Miscalibration in Machine Learning Classifiers” Markelle Kelly & Padhraic Smyth	<i>TREX @ IEEE VIS 2022</i>
“Variable-based Calibration in Machine Learning Classifiers” Markelle Kelly & Padhraic Smyth	<i>AAAI 2023</i>
“Capturing Humans’ Mental Models of AI: An Item Response Theory Approach” Markelle Kelly, Aakriti Kumar, Mark Steyvers & Padhraic Smyth	<i>FAccT 2023</i>

“Perceptions of Linguistic Uncertainty by Language Models and Humans”	
Catarina Belem*, Markelle Kelly* , Sameer Singh & Padhraic Smyth	<i>EMNLP 2024</i>
“Benchmark Repositories for Better Benchmarking”	
Rachel Longjohn*, Markelle Kelly* , Sameer Singh & Padhraic Smyth	<i>Under review</i>
“Bayesian Prediction of Correlated Expert Opinions in a Human-AI Setting”	
Markelle Kelly , Alex Boyd, Sam Showalter, Mark Steyvers & Padhraic Smyth	<i>Under review</i>

Fellowships & Awards

HPI RESEARCH CENTER FELLOWSHIP	<i>07/2022</i>
HPI Research Center in Machine Learning and Data Science at UCI	
NOYCE FELLOWSHIP	<i>01/2022</i>
Irvine Initiative in AI, Law, and Society	
CREATE FELLOWSHIP	<i>06/2021</i>
UCI Steckler Center for Responsible, Ethical, and Accessible Technology	
ENHANCED EXCELLENCE FELLOWSHIP	<i>09/2020</i>
UCI Computer Science Department	
DEAN’S AWARD	<i>09/2020</i>
UCI Computer Science Department	
GRADUATE DEAN’S RECRUITMENT FELLOWSHIP	<i>09/2020</i>
UCI Computer Science Department	
CLASS OF 2020 ACADEMIC EXCELLENCE AWARD	<i>06/2020</i>
Cal Poly College of Science and Math	
BEST VISUALIZATION	<i>04/2019</i>
UCLA DataFest	

Presentations

“Capturing Humans’ Mental Models of AI: An Item Response Theory Approach”
FACCT 2023
“Understanding Systematic Miscalibration in Machine Learning Classifiers”
TREX Workshop, IEEE VIS 2022
“Building a Single-Document Jupyter Application with Lab Components”
Berkeley Institute for Data Science 2019

Teaching & Academic Service

UCI TEACHING ASSISTANT • Project in AI	09/2022 – 12/2022
REVIEWER • NeurIPS Datasets and Benchmarks Track	07/2022
WORKSHOP ASSISTANT • MolSSI Data Analysis Workshop	07/2019
CAL POLY TEACHING ASSISTANT • Honors Calculus III & IV	01/2018 – 06/2018