JARED LEE KATZMAN

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EDUCATION

University of Michigan, Ann Arbor, Michigan   **August 2021 - Present**
Doctor of Philosophy in Information   *Advisors: Drs. Abigail Jacobs and Ceren Budak*
Researcher, Center of Ethics, Society, and Computing (ESC)
Certificate, Science, Technology, and Public Policy (STPP)

Yale University, New Haven, CT   **September 2012 - May 2016**
Bachelor of Science in Computer Science with Distinction   Cum Laude, GPA: 3.87/4.0
Thesis: *DeepSurv: Personalized Treatment Recommender System Using A Cox Proportional Hazards Deep Neural Network.* **853 Citations, 362 Stars, and 112 Forks on GitHub.**

EXPERIENCE

UM Science, Technology & Public Policy Program, Ann Arbor, MI September 2022 - Present (5 hrs/week)
Community Partnerships Initiative, Research Assistant

○ Collaborated with community organization Detroit Disability Power to conduct technical landscape analyses on how automated hiring algorithms are impacting people with disabilities.
○ Evaluated current regulations around algorithmic hiring and their gaps to assist with advocacy and education campaigns.

UM School of Information, Ann Arbor, MI   **August 2022 - Present (20 hrs/week)**
Data Science Capstone Course, Graduate Student Instructor

○ Instructed and mentored 44 students across 11 teams on how to conduct professional data science consultancy projects, ranging from building machine learning algorithms to developing new automated dashboards for data visualizations.
○ Instructed on topics such as: project management, technical writing, project design and implementation, and team development and conflict resolution.

Microsoft Research, New York, NY   **July 2020 - July 2021 (40 hrs/week)**
Computational Social Science Group, Research Assistant   *Principal Scientist: Dr. David Rothschild*

○ Researched multiple projects, including statistical methods for polling and election forecasting, interactive data journalism to improve comprehension of politically-relevant data, auditing of search platforms, and survey design for measuring impact of news media.
○ Investigate a taxonomy for fairness and inclusiveness in image tagging and captioning AI services. Member of Fairness, Accountability, Transparency, and Ethics (FATE) reading group.
○ Teaching Assistant for Microsoft Research Data Science Summer School, Summer 2021, an intensive, four-week hands-on introduction to data science for college students in the New York City area.

Amazon Web Services, New York, NY   **January 2018 - July 2020 (40 hrs/week)**
AWS SageMaker Platform, Machine Learning Engineer II   *Principal Scientist: Dr. Krishnaram Kenthapadi*

○ Founding engineer for team on ML Bias and Explainability products and research across ML platform.
○ Prepared literature reviews to define team's 2020 roadmap while designing and implementing preliminary product architecture on AWS Platform for EOY launch.
○ Built relationships and led demos with customer, product, engineering, and scientific stakeholders. Workshop on ML Explainability accepted to 2021 Amazon Machine Learning Conference.

Amazon Web Services, New York, NY   **January 2018 - July 2020 (40 hrs/week)**
AWS AI Labs, Machine Learning Engineer II   *Principal Scientist: Dr. Bing Xiang*

- Researched scientific vision and strategy for 5 new product proposals reviewed by senior AI leadership.
- Named on patent for work on feature pipelines for deep learning models used in information retrieval services.
- Launched data explainability features within one month of joining the team for customers to understand outputs of AutoML service. Built automatically generated Jupyter Notebooks produced by each of the millions of jobs run on Amazon SageMaker Autopilot.

AWS AI Algorithms, Machine Learning Engineer I   *Principal Scientist: Dr. Baris Coskun*

- Researched, developed, and released IP Insights, a deep learning algorithm that learns the history of users' IP addresses to identify anomalous behavior such as fraudulent logins and account takeovers.
- Discovered and removed bottlenecks in algorithm's performance by tuning MXNet's distributed training, leading to a 50% reduction in training time for 75% of the comparable cost of scaling.
- Presented a talk on scalable, distributed machine learning on MXNet at Amazon's internal developer conference to 100+ attendees. Designed and facilitated workshops on machine learning and security presented at local and national AWS conferences.

Bridgewater Associates, Westport, CT   **September 2016 - November 2017 (40 hrs/week)**
Security Technology, Technology Associate

- Built a real-time analytics platform with AWS services (AWS Lambda, Kinesis, DynamoDB, CloudFormation) to transform security controls and operations from a perimeter, defensive model to a data-centric, automated-reasoning framework.
- Redesigned a batch processing architecture as a real-time, serverless, streaming framework which decreased a security control's effect time from 24 hours to sub minutes and reduced monthly costs by a factor of 10.
- Received the highest performance grade amongst the 2016 Technology Associate cohort (1/19).

Yale Political Science Department, New Haven, CT   **January 2016 - March 2016 (5 hrs/week)**
Research Assistant   *PI: Dr. Eitan Hersh*

- Wrote a web scraper in Python to help construct a novel dataset to study political affiliation of religious leaders and the influence of church leaders as part of the political elite.

Amazon.com, Seatle, WA   **May 2015 - August 2015 (40 hrs/week)**
Software Development Intern, Global Payments Systems

- Developed a multi-tier sandbox environment in Java and Ruby on Rails to allow developers to simulate and test new payment methods.

Mellanox Technologies, Ra'anana, Israel   **June 2014 - August 2014 (40 hrs/week)**
Software Development Intern, Ethernet Group

- Reduced the time product testers spent identifying bugs and errors by rewriting team's log analyzer tool to automate daily reports with content-rich communications and automated bug identification.

VOLUNTEER & COMMUNITY OUTREACH

University of Michigan Museum of Natural History   Jan 2022 - Present
Science Communication Fellow

- Trained on how to communicate research to the general public and create interactive science installations that cater to diverse populations across age and learning style.
- Developed multiple activities to introduce museum visitors to the presence and risk of artificial intelligence in daily life. Installations included an "AI scavenger hunt" to identify algorithms on YouTube's homepage and an "AI Hiring Booth" to educate individuals on how an AI evaluates a video-recorded job interview.

NEW INC, New York, NY   June 2020 - June 2022
Hybrid Practice, Year 7 & Year 8

- NEW INC is an ideas incubator and professional development program for creative entrepreneurs at the edge of art, design, and technology.
- Developed my artistic practice using computation and AI as both a reflection on our societal values and a mirror for the way we build technology.

Out in Tech, New York, NY   January 2018 - July 2021
Head of Out in Tech U, Volunteer

- Lead Out in Tech U (OITU), the youth-impact program for a global non-profit and community of 40,000+ LGTBQ+ professionals in the tech industry.
- Started OITU's digital mentorship program, where LGBTQ+ students work on projects with professional mentors over the course of 8-week semesters.
- Managed 4 volunteer coordinators to design and facilitate all digital programming for participants across the United States. Grew the program from an initial 30 participants to over 400 members annually.
- Led pilot for international expansion of mentorship program to UK.
- Participated in the Spring 2018 NYC cohort as a mentor; Worked with a mentee, with no previous experience in data analysis, on how to use Python, Jupyter Notebooks, Pandas, NumPy, and Plotly to visualize the impact of America's Opioid Crises.

White House LGBT Tech & Innovation Summit: #transneeds   August 2015 - December 2015
Team Member

- Ran a social-media listening campaign to address the lack of federal data on pressing trans health issues.
- Analyzed over 12,000 responses and presented findings as policy recommendations to the U.S. Federal Government and the U.S. Chief Data Scientist DJ Patil.

HONORS, AWARDS & LEADERSHIP TRAINING

Rackham Conference Travel Grant	2022
National Science Foundation Graduate Research Fellowships Program, Honorable Mention	2022, 2021
All Tech is Human, Responsible Tech Mentorship Program	2022
University of Michigan's National History Museum Science Communications Fellow	2022
University of Michigan School of Information Merit Scholar	2021
7th Generation Linear Holder of 'Guang Ping Yang' Tai Chi Form	2020
Amazon Inventor Award	2020
New York Live Arts ACT Labs Technlogy Fellow	2019

White House LGBT Tech & Innovation Summit	2015
Shalom Hartman Institute iEngage Fellowship for Student Leaders	2015
Elisa Spungen Bildner '75 and Robert Bildner '72 Israel Travel Grant	2014
ACS National Organic Chemistry Exam - 100th Percentile	2013
Yale International Summer Award	2013
CompTIA Security+ Certification	2012
US Air Force CyberPatriot Open Division National Champions	2011
CompTIA Networking Certification	2011
American Legion's NJ Boys State	2011

PEER-REVIEWED PUBLICATIONS & CONFERENCES

Jared L Katzman, Angelina Wang, Morgan Klaus Scheuerman, Su Lin Blodgett, Kristen Laird, Hanna Wallach, and Solon Barocas. *Taxonomizing and Measuring Representational Harms: A Look at Image Tagging.* Proceedings of the AAAI Conference on Artificial Intelligence, 2023

Jared L Katzman, Solon Barocas, Su Lin Blodgett, Kristen Laird, Hanna Wallach, and Morgan Klaus Scheuerman. *Representational Harms in Image Captioning and Labeling.* Measures and Best Practices for Responsible AI workshop. KDD 2021, Aug 2021a

Jared L Katzman, Solon Barocas, Su Lin Blodgett, Kristen Laird, Hanna Wallach, and Morgan Klaus Scheuerman. *Representational Harms in Image Captioning and Labeling.* Beyond Fairness: Towards a Just, Equitable, and Accountable Computer Vision Workshop. CVPR 2021, Jul 2021b

Jared L Katzman and David Rothschild. *Auto-Complete: Hidden Recommendation Engine.* 7th International Conference on Computational Social Science, Jul 2021

Jared L Katzman, Uri Shaham, Alexander Cloninger, Jonathan Bates, Tingting Jiang, and Yuval Kluger. *DeepSurv: personalized treatment recommender system using a Cox proportional hazards deep neural network*, volume 18. Springer, 2018

Jared L Katzman, Uri Shaham, Alexander Cloninger, Jonathan Bates, Tingting Jiang, and Yuval Kluger. *Deep Survival: A Deep Cox Proportional Hazards Network.* Poster. Computational Biology Workshop. International Conference on Machine Learning, Jun 2016

RESEARCH BLOG POSTS

David Rothschild and Jared Katzman. *Reimagining the Election Prediction Game.* Shape The Vote, Oct 2020a. URL http://shapethevote.com/vote/overview-2020-10-26

David Rothschild and Jared Katzman. *COVID-19 in the United States: How the United States has changed sentiment, knowledge, and behaviors around COVID-19.* Shape The Vote, Oct 2020b. URL http://shapethevote.com/blog/covid-in-us-2020-10-22

Jared Katzman and Baris Coskun. *Detect suspicious IP addresses with the Amazon SageMaker IP Insights algorithm.* Nov 2018. URL https://aws.amazon.com/blogs/machine-learning/detect-suspicious-ip-addresses-with-the-amazon-sagemaker-ip-insights-algorithm/

PRESENTATIONS, INTERVIEWS, & WORKSHOPS

Jared Katzman, Meera Desai, and Yvette Ramirez. *Embodied Exploration of Data Feminist Principles for Developing AI*. Social Event. Mozilla Festival, March 2021c

HYBRIDITY. Online panel for NEW INC and the National Endowment for the Arts, Sept 2021

Jared Katzman. *zoopsa 19.0 – Reimagining Our Political Game*. Online presentation, Dec 2020

Will Karkar and Jared Katzman. *S01 E02: Jared Katzman*. Podcast. Corporate Queeries, Jul 2020. URL `https://open.spotify.com/episode/4ZMXgJEqL7Q7Og4EfARaEH`

Jeff Pulchaski, Neal Rothleder, Baris Coskun, Jared Katzman, and Rima Tanash. *Scalable, Automated Anomaly Detection with Amazon GuardDuty and SageMaker*. Workshop. AWS re:Inforce, Jun 2019a. URL `https://github.com/aws-samples/aws-ml-detection-workshop`

Jeff Pulchaski, Neal Rothleder, Baris Coskun, Jared Katzman, and Rima Tanash. *Scalable, Automated Anomaly Detection with Amazon GuardDuty and SageMaker*. Workshop. AWS Loft, Nov 2019b. URL `https://github.com/aws-samples/aws-ml-detection-workshop`

Jared Katzman. *Building Algorithms at Scale: My Network is Too Big!* Presentation. Amazon DevCov, Jul 2018

Stefano Pacifico, Chris Welty, Lora Aroyo, Jared Katzman, Larry Smith, and Aditya Kalyanpur. *The Poster Session*. Workshop. Cognitive Artificial Intelligence Meetup (CAIM), Feb 2018. URL `http://thepostersession.com/`

COMPUTATIONAL ART & NEW MEDIA

and
Dan and (in black leather sprawled under) 2021

In collaboration with multimedia artists Itziar Barrio and performer Candystore, I trained an AI to generate a script for an online video project to explore the human-machine connection and how we imbue meaning into text. *Presented online at The Tabakalera International Centre for Contemporary Culture, San Sebastián, Basque Autonomous Community, Spain.*

Computational Justice 2020

Working with Dr. Ida Momennejad on translating multi-agent simulations to aesthetic visualizations to expose gaps in research on the systematic effects of sexism in the workplace.

Mutual Wayfinding 2019

Used neural networks to generate natural language in response to digital paintings and used the passages as prompts for photographic interpretation to explore the ways 'conventional definitions' of online discourse relate to our external-physical world and our inner-psychological world.

Ring of Keys Cabaret 2019

Developed and pitched idea for a cabaret using NLP and new story telling techniques to address the mental health crisis in the LGBTQ+ community. *Awarded first-place runner up at New York Live Arts HACK-ART-THON 2019.*

LANGUAGES & SOFTWARE

Scientific	Python, R, Matlab
Machine and Deep Learning	MXNet, Keras, Scikit-Learn, PyTorch, Tensorflow, xgboost, Theano
Programming	Java, Scala, HTML, CSS, JavaScript, C
Data Visualization	D3.js, plotly, seaborn, matplotlib
Cloud Computing	Amazon SageMaker, AWS Lambda, AWS Kinesis, AWS DynamoDB, AWS CloudFormation