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Ziv G. Epstein

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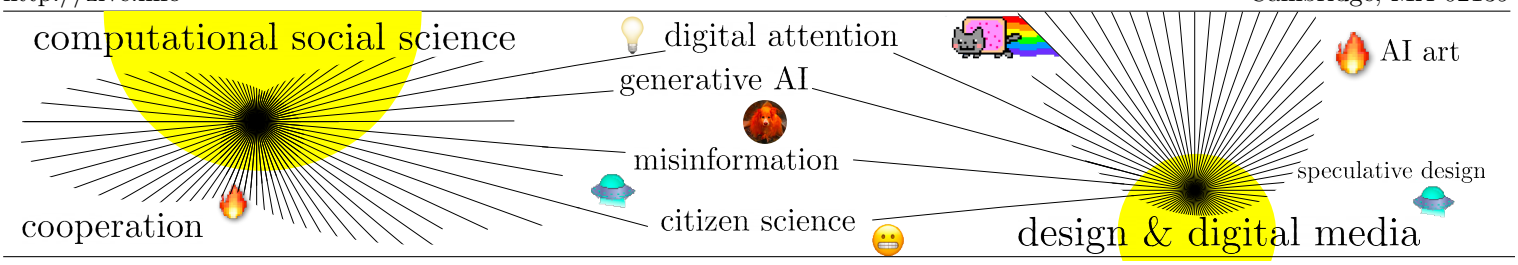

EDUCATION

Stanford University, Palo Alto, CA — September 2023 - Present

Postdoctoral Scholar at the Stanford Institute for Human-Centered Artificial Intelligence.

Massachusetts Institute of Technology, Cambridge, MA — September 2019 - May 2023

PhD in Media Arts and Sciences at the MIT Media Lab's Human Dynamics group.

- Thesis: *The Dynamics of Attention in Digital Ecosystems*, co-advised by David Rand and Sandy Pentland.

Massachusetts Institute of Technology, Cambridge, MA — Septmber 2017 - May 2019

Masters in Media Arts and Sciences at the MIT Media Lab's Scalable Cooperation group.

- Thesis: *Untangling the Knotty Web of AI*, advised by Iyad Rahwan.

Pomona College, Claremont, CA — Graduated May 2017

BA Cum laude with Computer Science and Mathematics double major, Media Studies minor. GPA 3.88/4.00

- Thesis in Mathematics: *Data Representation as Low Rank Matrix Factorization*, advised by Blake Hunter.
- Thesis in Media Studies: *The Mediasphere: Intermediation with Digital Planetaria*, advised by Kim-Trang Tran.

Aquincum Institute of Technology, Budapest, Hungary — Fall 2015

EXPERIENCE

OpenAI — March 2022 - April 2022

Consultant on AI alignment

- Evaluated DALL-E 2 for problematic behavior, conducted research on societal impact of AI, and helped developed mitigations for future AI deployments.

Jigsaw (Google) — Feb 2020 - Aug 2021

Contractor at Google technology and cybersecurity incubator

- Developed design interventions & conducted randomized experiments to inform Google's response to misinformation.

Facebook, Inc., New York, NY — May 2019 - August 2019

Intern in Core Data Science on the Facebook and Society team

- Conducted causal inference and trained machine learning models at Facebook-scale as part of a independent research project to detect and understand the proliferation of misinformation.

Massachusetts Institute of Technology, Cambridge, MA — June 2015 - August 2016

Researcher and software developer for Laboratory for Social Machines at MIT Media Lab

- Designed and implemented web scraper, back-end database and visualization interface as a functional component of Electome project to navigate, aggregate and understand online journalism during the 2016 Presidential Election. Affiliated with the MIT Summer Research Program, then rehired as private contract.

Yale University, New Haven, CT — October 2012 - Present

Data Science Researcher at Human Cooperation Lab

- Design experiments and computational models, collect/analyze data and write papers to study and quantify human cooperation within an interdisciplinary environment. Funded by Pomona College Summer Internship Grant.

Harvard University, Cambridge, MA — June 2012 - October 2012

Intern at Moral Cognition Lab

- Designed experiments, ran in-lab studies and learned literature for moral psychology as only high-school student in upper division summer internship program.

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PUBLICATIONS

Published (full list at `https://scholar.google.com/citations?user=yG7l19UAAAAJ&hl=en`):

Science'23 **Epstein ZG**, Hertzmann A, et al. Art and the science of generative AI. *Science*. 2023. [HTML][Twitter Thread]

Science Advances'23 **Epstein ZG**, Sirlin N, Arechar, A, Pennycook G, Rand DG. The social media context interferes with truth discernment. *Science Advances*. 2023. [HTML][Twitter Thread]

Nature Hum. Behav.'23 Arechar A.A,..., **Epstein ZG**... et al. Understanding and Reducing Online Misinformation Across 16 Countries on Six Continents. Available at `https://psyarxiv.com/a9frz/`. Forthcoming in *Nature Human Behavior*.

ICWSM'22 **Epstein ZG*,** Foppiani N*, Hilgard S*, Sharma S*, Glassman E & Rand, D. Do explanations increase the effectiveness of AI-crowd generated fake news warnings? *Proceedings of the International AAAI Conference on Web and Social Media*. 2022. (*=contributed equally)

PNAS'22 Groh M, **Epstein ZG,** Firestone C, Picard R. Deepfake Detection by Human Crowds, Machines, and Machine-informed Crowds. *PNAS*.

NeurIPS Workshop'22 Lin H*, **Epstein ZG***, Pennycook G, Rand DG. Quantifying attention via dwell time and engagement in a social media browsing environment. NeurIPS workshop *All Things Attention: Bridging Different Perspectives on Attention*. Available at `https://arxiv.org/abs/2209.10464`

ICCC'22 **Epstein ZG**. Schroeder H, Newman D. When happy accidents foster creativity: Bringing collaborative speculation to life with generative AI. *International Conference for Computational Creativity*

ICCC'22 Gordon S, Mahari R, Mishra M, **Epstein ZG**. Co-creation and ownership for AI radio.

AAAI Workshop'22 Smith, A., Schroeder, H., **Epstein, ZG**, Cook, M., Colton, S., & Lippman, A. (2023). Trash to Treasure: Using text-to-image models to inform the design of physical artefacts. *AAAI* Creativity Across Modalities workshop

Nature'21 Pennycook G*, **Epstein ZG,*** Mosleh M*, Arechar, A, Eckles D, & Rand, D. Shifting attention to accuracy can reduce misinformation online. *Nature* 592.7855 (2021): 590-595. (*=contributed equally). Honorable Mention for 2021 Behavioral Science and Policy Association Best Paper Award.

CSCW'21 **Epstein ZG,** Groh M, Dubey A, Pentland A. Social influence leads to the formation of diverse local trends. *Proceedings of the ACM on Human-Computer Interaction in Computer-Supported Cooperative Work (CSCW) 2021*.

Harv. Misinfo Review'21 **Epstein ZG,** Berinsky A, Cole R, Gully A, M, Pennycook G, & Rand, D. Developing an accuracy-prompt toolkit to reduce COVID-19 misinformation online. *Harvard Misinformation Review*. 2021.

Harv. Misinfo Review'21 Sirlin, N., **Epstein, Z.**, Arechar, A. A., Penycook, G. & Rand, D. (2021). Digital literacy is associated with more discerning accuracy judgments but not sharing intentions. *Harvard Misinformation Review*. 2021.

CACM'21 Groh, M, **Epstein ZG**, Obradovich, N, Cebrian, C & Rahwan, I. Human detection of machine manipulated media. *Communications of the ACM* doi:10.1145/3445972. October 2021, Vol. 64 No. 10, Pages 40-47 (Made cover of magazine)

CHI'20 **Epstein ZG**, Pennycook, G & Rand, DG. Letting the crowd steer the algorithm: Laypeople can effectively identify misinformation sources. In Proceedings of the 2020 CHI Conference on Human Factors in Computing Systems (CHI'20) Available at `https://psyarxiv.com/z3s5k/download?format=pdf`

iScience'20 **Epstein ZG**, Levine, S, Rand, DG & Rahwan, I. Who gets credit for AI-generated Art? *iScience*, 2020.

ICCC Workshop '20 **Epstein ZG**, Boulais O, Gordon S, & Groh, M. Interpolating GANs to Scaffold Autotelic Creativity *ICCC'20*, (workshop paper) 2020. Available at `https://arxiv.org/abs/2007.11119`.

EC'16 **Epstein ZG**, Peysakhovich, A. & Rand, DG. The Good, the Bad, and the Unflinchingly Selfish: Cooperative decision-making can be predicted with high accuracy using only three behavioral types. *Proceedings of the Conference on Economics and Computation* July 2016.

SOCG'16 Devadoss, S, **Epstein ZG**, & Smirnov, D. Visualizing Scissors Congruence. *Symposium on Computational Geometry* June 16, 2016. Application available online at `http://dmsm.github.io/scissors-congruence`

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PLOS ONE'14	Rand DG, & **Epstein ZG**. Risking Your Life Without a Second Thought: Intuitive Decision-Making and Extreme Altruism. *PLoS ONE* October 15, 2014. Listed as one of the Top 10 Insights from the Science of a Meaningful Life in 2014 by the Greater Good Science Center at UC Berkeley.
JAMIA'16	Padula WV, . . . , **Epstein ZG**, . . . et al. Using Clinical Data to Predict High-cost Performance Coding Issues Associated with Pressure Ulcers: a multilevel cohort model. Journal of the American Medical Informatics Association (JAMIA), 2016.

Pre-prints/under review :

- **Epstein ZG***, Lin H*, Pennycook G, Rand DG. How many others have shared this? Experimentally investigating the effects of social cues on engagement, misinformation, and unpredictability on social media. In preparation.
- Hudson S*, **Epstein ZG***, Klingmann M, Pentland A. Metaphors, Myths, and the Machine: Quantifying the Dynamics of NFTs with an Autonomous AI Artist. Under review at CSCW.
- Arechar A.A,..., **Epstein ZG**... et al. Understanding and Reducing Online Misinformation Across 16 Countries on Six Continents. Available at `https://psyarxiv.com/a9frz/`. Under review at *Nature Human Behavior*.
- **Epstein ZG***, Lin H*, Pennycook G, Rand DG. Yourfeed: Towards open science and interoperable systems for social media. Available at `https://arxiv.org/abs/2207.07478`.
- **Epstein ZG**, Payne B.H, et al. Closing the AI Knowledge Gap. Available at `https://arxiv.org/pdf/1803.07233.pdf`

ARTWORKS FEATURED

- *Meet the Ganimals* featured at *Ties That Cannot Be Unbound* New Art City Exhibition (2023)
- *Detect a fake* featured at MIT Museum (2022)
- *Meet the Ganimals* in CLOG x Feeds edition `http://www.clog-online.com/shop/clog-feeds/` (2022)
- Ganimals featured in the AI Exhibition at Vienna Museum of Technology (2021)
- *Errorism* in collaboration with Agnieszka Kurant in her solo show at Muzeum Sztuki in Lodz, Poland (2021)
- *Life on Mars* featured in the Wasteland Film Festival, Utah Music Video awards and the iPhone Film Festival / Mozimotion (2021). Online at `https://vimeo.com/508951373`
- *Save the Ganimals* selected as SXSW Art Program finalist (2020)
- *Deep Angel Shadow Sans Substance* featured at Ars Electronica (2019)
- Field experiment conducted at Burning Man featured in *Nautilus* (2019). Read more at `http://nautil.us/issue/74/networks/six-degrees-of-separation-at-burning-man`

AWARDS

- IDSA x Ars Electronica FOUNDING LAB Fellow (Fall 2023)
- Best Plenary Talk for *Quantifying attention via dwell time and engagement in a social media browsing environment* – International Conference on Computational Social Science (2023)
- Best Honorable Mention Talk Award for *Yourfeed: measuring attention in an experimental social media environment* – International Conference on Computational Social Science (2022)
- Best Poster Presentation Award for *Towards a new social laboratory: An experimental study of search through community participation at Burning Man* – International Conference on Computational Social Science (2020)
- NSF Vizzies Winner - The National Science Foundation's top data visualization award (2018)
- Barry M. Goldwater Scholar– highly competitive national award for future scientists (2016)
- The Jaeger Mathematics Prize – awarded to a student for excellence in mathematics (September 2014)
- Pomona College Scholar (Fall 2013, 2014 and Spring 2014)

SERVICE

Reviewed papers for IC2S2 2020, ICWSM 2020+2021, CHI 2021, PNAS 2021, Organizer for ICWSM 2021 workshop

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EXTRACURRICULAR ACTIVITIES

AI Art practice, Cambridge, MA — January 2018 - Present
Practice and operate AI-based art community that hosts happenings and features artwork internationally. See more at `http://aialchemy.media.mit.edu/` and `https://eliza-collective.github.io`

Planetarium Operator, Claremont, CA — January 2016 - May 2017
Created planetarium content, developed software, maintained hardware, presented shows and chaired community engagement for Pomona's digital 8K 25-foot planetarium.

Radio DJ for KSPC 88.7, Claremont, CA — June 2014 - May 2016
Broadcast radio show *Phantasmagoric Combinatronics* weekly to the greater LA area.

SELECTED COURSE WORK

Experimental Design and Causal Inference (MIT), Ethics and Governance of Artificial Intelligence (MIT/Harvard), Advanced Graduate Machine Learning (MIT), Markets, Networks and Crowds (Harvard), Imagination, Computation, and Expression (MIT), Designing for Empathy (MIT IAP), Time Series Statistics (Pomona), Functional Analysis (Pomona), Algorithms (Harvey Mudd), Quantum Information Theory (Budapest University of Technology and Economics)

INVITED TALKS

- The Dynamics of Attention in Digital Ecosystems. Department of Information Systems, Zefat Academic College, Israel 3/23/2023
- The Societal Impact of Generative AI. The MIT Museum. 2/28/2023
- Invited talk for *Poetics of the Infraordinary* in the Creative Writing department at University of Pennsylvania 9/22/2022
- Real or fake? Evaluating human and AI deepfake detection. Synthetic Futures Livestream Event. 2/17/2022
- Denver Museum of Art and Science. Institute for Science & Policy Symposium on *Science in the Age of Misinformation.* 12/1/2021
- Stanford MS&E +Communications+GSB 5/6/2021
- The Digital Image - Social Dimensions, Political Perspectives and Economic Constraints (German Research Foundation priority program) 4/29/2021
- University of Pittsburgh Computational Social Science Seminar 4/21/2021
- Affective Brain Lab Seminar @ University College London 4/15/2021
- Data Science / Computational Social Science Seminar Series @ UMSI (Michigan) 4/8/2021
- Center for Constructive Communication (MIT) 3/31/2021

SELECTED PRESS

- MIT News. If art is how we express our humanity, where does AI fit in? (interview). 7/15/2023.
- MIT News. On social media platforms, more sharing means less caring about accuracy (interview). 3/3/2023.
- Vice. Is the Panic Over AI Art Overblown? We Speak With Artists and Experts. (interview). 2/22/2023.
- Grid News. An AI-powered séance is resurrecting the dead: How different art forms are reimagining the horror genre (interview). 10/28/2022.
- Los Angeles Times. How AI-generated art is changing the concept of art itself (interview). 9/21/2022.
- New York Times. A 'Virtual Rapper' Was Fired. Questions About Art and Tech Remain (quoted). 9/6/2022.
- Axios. Dust, costumes, weirdness — and science: Burning Man is back (interview). 8/26/2022.
- NPR. When machine learning meets surrealist art meets Reddit, you get DALL-E mini (interview). 7/5/2022.
- WBUR. The faker: Deepfakes, lies, and cheerleading 4/22/2022
- Scientific American. Are You Better Than a Machine at Spotting a Deepfake? 4/15/2022
- MIT News. A remedy for the spread of false news? 3/27/2021
- Fast Company. Google and MIT prove social media can slow the spread of fake news. 6/4/2021.
- Forbes. How We Talk About AI Affects Who Gets Credited For AI Art. 10/26/2020
- ZDNet. People's notions about AI are terrible, an MIT study asks whether they can be helped. 9/18/2020

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- Digg. The Creepiest Thing Online This Week Is An AI That Creates Digital Ghosts. 10/31/2018
- Fast Company. AI is making Halloween so much spookier. 10/30/2018
- The Economist. To understand digital advertising, study its algorithms. 4/18/2018
- New York Times. The Trick to Acting Heroically. 8/28/2015
- Washington Post. The secret of extreme heroes: They don't overthink. 8/24/2015
- Vox. The science of extreme altruism: why people risk their lives to save strangers. 10/15/2014