

Jeremy Gordon

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EDUCATION

University of California, Berkeley 2017 - Present (Exp. Grad. 2022)

- PhD Student, Information Science, School of Information
- Advised by John Chuang, BioSENSE Lab
- Research interests: computational cognitive science, predictive processing, model-based reinforcement learning, prospective planning, HCI/HRI
- GPA: 4.0; Completed preliminary exam November 2019

Stanford University 2003-2007

- Graduated with dual degrees
 - B.S., Mechanical Engineering
 - B.A., Political Science (Concentration in International Relations and Political Philosophy)
- Activities/honors: Claude Buss Fellow, Stanford Student Enterprises Achievement Award, Resident Assistant

PUBLICATIONS

JOURNAL ARTICLES & CONFERENCE PROCEEDINGS

Gordon, J., Curran, M., Chuang, J., Cheshire, C. (2020). Covert Embodied Choice: Decision-Making, VR, and the Limits of Privacy Under Biometric Surveillance. *Proceedings of the 2021 CHI Conference on Human Factors in Computing Systems* (Accepted)

Gordon, J., Rawlinson, D., & Ahmad, S. (2020, September). Long distance relationships without time travel: Boosting the performance of a sparse predictive autoencoder in sequence modeling. In *IAPR Workshop on Artificial Neural Networks in Pattern Recognition* (pp. 52-64). Springer, Cham.

Curran, M. T., Gordon, J., Lin, L., Sridhar, P. K., & Chuang, J. (2019, May). Understanding Digitally-Mediated Empathy: An Exploration of Visual, Narrative, and Biosensory Informational Cues. In *Proceedings of the 2019 CHI Conference on Human Factors in Computing Systems* (pp. 1-13).

POSTERS & PRESENTATIONS

Talk: "Covert Embodied Choice: Decision-Making, VR, and the Limits of Privacy Under Biometric Surveillance"

Center for Long-Term Cybersecurity Research Exchange
December 10, 2020, UC Berkeley

Poster: "Long Distance Relationships without Time Travel"

Neuroscience to Artificially Intelligent Systems Conference (NAISys)
Upcoming, November 9-12, 2020, Cold Springs Harbor Laboratory

Talk: "Ongoing research update: VR laboratories as a microcosm for studying real-world surveillance"

Center for Long-Term Cybersecurity Research Exchange
October 3, 2019, UC Berkeley

GENERAL AUDIENCE ARTICLES & OTHER WRITING

Working Memory as an (Embodied) Generative Model

October 2020, *Submission for WBAI 2020 Modelathon*

<https://github.com/onejgordon/generative-embodied-memory>

Empirical Enactivism: How our brains simulate the world in order to experiment on the future

2018, *The Spike*

An illustrated overview of how our brains (might) think — the fascinating intuition of the generative predictive model

2017, *The Spike*

RESEARCH & PROFESSIONAL EXPERIENCE

RESEARCH INTERN – Numenta

Redwood City, Summer 2019. Numenta is a research laboratory developing a large-scale theory of neocortical function and machine intelligence.

- Initiated collaborative project between the Numenta research team and Cerenaut labs based in Melbourne.
- Explored deep learning models such as Recurrent Sparse Memory adapted from Numenta's Hierarchical Temporal Memory (HTM).
- My work resulted in manuscript: "Long Distance Relationships without Time Travel: Boosting the Performance of a Sparse Predictive Autoencoder in Sequence Modeling" accepted to ANNPR and to be presented at NaiSYS in November 2020.

FOUNDER & CTO – Echo Mobile Limited

Nairobi, Kenya, 2011 – 2017. Echo Mobile (echomobile.io) is a mobile-first communication and customer engagement system designed for impact organizations.

- Designed, developed and launched cloud platform (service backends, web application, mobile clients) that has reached over 4 million respondents and has transacted over 20 million messages.
- Achieved annual revenue over US\$ 1M: 2015 - 2017
- Hired CEO and grew team to seventeen to develop platform for increasing number of industries and users, and to support operations across East Africa (Kenya, Tanzania, Uganda, Rwanda).
- Served over four hundred organizational users in East African region including long-term contracts with the Kenya Ministry of Education, UNICEF, UNDP, The Nature Conservancy, Aga Khan Foundation, World Bank, and others.
- Developed partnership with IBM Research Africa to launch SMS crisis reporting during Ebola crisis in Sierra Leone.
- Implemented first SMS-based poverty assessment in Kenya in partnership with Acumen Fund, Grameen Foundation, Global Impact Investing Network (GIIN), Aspen Network for Development Entrepreneurs (ANDE), and others.
- Launched Echo Sense -- an open source platform for IoT analysis and reporting targeted at international development organizations.
- In partnership with researchers at UC Berkeley, deployed a randomized controlled trial investigating real-time analysis of vehicle sensor data to improve road safety.
- Echo's work has been featured in local and international publications including Business Daily Africa, CIO East Africa, and National Geographic.

FOUNDER – FlashCast Ventures Ltd

Nairobi, Kenya, 2010-2012. FlashCast uses smart, location-aware technology to provide a geo-targeted, highly relevant, transit-based messaging platform to businesses and organizations.

- Designed and developed all aspects of technical product (software, hardware, mobile).

- Launched pilot display June 2012 and grew fleet to 22 displays across 4 Nairobi routes.
- Established partnership with IBM Research Africa featured in local and international press: ZDNet, WSJ, BBC.
- Acquired key customers: Safaricom Ltd, Population Services International, One Degree Solar, Ipsos Synovate.
- African News Innovation Challenge Grant Winner (funded by Knight Foundation, Google, 2012).

SENIOR ANALYST – C1 Consulting LLC

San Francisco, CA, Feb 2009 – April 2010. C1 Consulting is an integrated marketing and market research consulting firm specializing in the biotechnology industry.

- Managed all phases of project cycle, from conception through literature review, instrument design, programming, and analysis.
- Conducted in-person qualitative interviews and questionnaire pre-tests.
- Performed statistical analyses of survey results and secondary datasets (SPSS).

LEAD PRODUCT DESIGNER – The New Media Group

Tokyo, Japan, Nov 2007 – June 2008. *The New Media Group is an international network-neutral, device-neutral Internet Protocol Television (IPTV) distributor and content provider based in Japan.*

- Managed design-team and personally completed digital and print creatives for over 80 marketing initiatives spanning four languages and six countries.
- Produced complete redesigns and coded JavaScript prototypes for major web interfaces including media player, purchasing system, Video-On-Demand search, and set-top-box browser.

VOLUNTEER & INTERNSHIP EXPERIENCE

KIVA FELLOW – Kiva.org

Nairobi, Kenya, May – Aug 2010. *Kiva is a microlending platform allowing individuals to contribute to the loans of entrepreneurs in the developing world. Kiva Fellowships are 3-4 month placements with Kiva's partner Microfinance Institutions with the goal of bringing transparency, credibility, and expertise to the work of these organizations. I completed placements with Yehu Microfinance in Mombasa, and Juhudi Kilimo in Nairobi.*

- Created software tool to collect loan updates from Kiva entrepreneurs via mobile (SMS-based) surveys
- Aided strategic planning and pilot roll-out of mobile money platform M-Pesa for Juhudi Kilimo
- Contracted, post-fellowship, to produce report "Recommendations for Mobile Direct Borrower Journaling at Kiva" based on experience piloting data collection instruments at two Kiva microfinance partners in Kenya.

ANALYST – World Bank

Washington, D.C., Spring 2006

- Reviewed quantitative and qualitative interview data for Moving Out of Poverty study conducted within the Poverty Reduction and Economic Management division.
- Created new numeric measures to analyze poverty levels in 84 regions worldwide over a 10-year study period.
- Produced ten summary reports aggregating country data and identifying community and household-level poverty trends.

AWARDS, FELLOWSHIPS & ACHIEVEMENTS

- NSF Graduate Research Fellowship 2019 (Computational Psychology)
- Center for Long-term Cyber Security Research Grantee (2018-2020)
- Finalist: Nat Friedman's AI Grant (2017)
- Ashoka Changemakers Power of Small Competition Finalist (2012)
- African News Innovation Challenge Grant Winner (2012)

TECHNICAL SKILLS, LANGUAGES & COURSEWORK

TECHNICAL SKILLS & LANGUAGES

- Software engineering, full stack web and mobile design and development, machine learning research
 - Languages: Python (10+ years), Java / Java Android (7+ years), Javascript (10+ years), C# (3+ years)
 - Frameworks & libraries: PyTorch, TensorFlow, gym, ray, numpy, pandas, Node, React.js / Native, Flux
 - Platforms: Google Cloud Platform (App Engine, BigQuery, Firebase, Data Studio), Amazon Web Services, Unity VR
- Basic proficiency in Japanese, Kiswahili

SELECTED COURSEWORK

- Neural Computation: A (B. Olshausen, Berkeley)
- Computational Models of Cognition: A (A. Collins, Berkeley)
- Circuits and Systems Neurobiology: A (D. Feldman, Y. Dan, Berkeley)
- Applied Machine Learning: A+ (J. Blumenstock, Berkeley)
- Introduction to probability and statistics at an advanced level: S (A. Adhikari, Berkeley)
- Introduction to Artificial Intelligence: A (P. Abbeel, Berkeley)
- Cognitive Neuroscience: A (R. Ivry, Berkeley)
- User Interface Design: A (R. Youmans, Berkeley)
- Matrix Theory and Applications: A (V. Durrleman, Stanford)