JUNIPER L. LOVATO

Updated January 23, 2024

PERSONAL DETAILS

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RESEARCH INTERESTS

ethics, fairness, accountability, and transparency, privacy, the science of stories, computational social science, complex systems, networks, computer science, data science, and open source

EDUCATION

The University of Vermont, Burlington, Vermont
P.h.D. in Complex Systems and Data Science, 2020–2023
Advisors: Professor Peter S. Dodds and Professor Randall Harp

St. John's College, Santa Fe, New Mexico
Master of Arts in Liberal Arts (M.A.L.A) in Western Classics, 2011-2012
Advisor: Professor Russell Winslow

College of Santa Fe, Santa Fe, New Mexico
Bachelor of Arts (B.A.) in Political Science and Business Administration, 2006-2009

PROFESSIONAL EXPERIENCE

The Department of Computer Science, The University of Vermont, Burlington, VT
Research Assistant Professor, 2023–Present

The University of Vermont, Vermont Complex Systems Center, Burlington, VT
Director of Partnerships and External Programs, 2018–2023

Data Luminosity LLC, Consulting, Burlington, VT
Sole Member, 2023–Present

MAKE Santa Fe, Santa Fe, NM
Community Maker Space Co-founder, 2015–Present

Santa Fe Institute, Santa Fe, NM
Director of Education. Earlier roles include Manager of Schools, Residencies, and Community Outreach and Program Coordinator, Administrator 2011–2017

Office of the Lieutenant Governor, Santa Fe, NM
Policy Research Assistant & Inspection of Public Records Act Liaison Officer, 2010–2011

AmeriCorps VISTA, Santa Fe, NM
Volunteer In Service to America (VISTA), 2009–2010

AWARDS

Selected Funding & Awards

- National Science Foundation Award Number: 2242829, Co-Principal Investigator (Co-PI) RII Track-1: Harnessing the Data Revolution for Vermont: The Science of Online Corpora, Knowledge, and Stories (SOCKS). ($20,000,000, 2023-2028).

- National Science Foundation Award Number: 2332598, Senior Personnel. Conference: Interdisciplinary Open Practices Workshop: Understanding & Designing Organizing Practices for Open Ecosystems ($49,999, 2023-2024).

- Alfred P. Sloan Foundation Grant Number G-2021-16956, Principal Investigator (PI), VErmont ReSearch OSPO (VERSO). Pilot land-grant university model for supporting open source software as a part of the University of Vermont open source programs office. ($566K, 2022-2024)

- MassMutual Life Insurance, MassMutual Center of Excellence in Complex Systems and Data Science, Role: Grantee, Director of Partnerships and Programs, ($10M, 2019–2028)

- Google Open Source Google-Vermont Partnership, Role: Awardee, Program Director, Open-source Complex Ecosystems And Networks (OCEAN), ($1.0M, 2020–2022)

- Santa Fe Institute, Dynamics of Interacting Contagions Workshop, Role: Awardee, Co-Organizer Workshop Funding), ($23K, 2020)

- MATRIX Program, Australia, Complex Networks Winter Workshop Australia Edition Program Funding, Role: Awardee, Co-Organizer, ($38K, 2022)

- NetSci Sponsors NetSci 2019 Conference Sponsorships and grants (over 20 participating supporters), Role: Grantee, Lead Organizer, ($30K, 2019)

- Universite Laval, Sentinelle Nord, Complex Networks Winter Workshop Sponsorship, Role: Awardee, Lead Organizer, ($25K, 2018–2020)

- University of Vermont, Aiken Award, 2020 STEM Month, Program Support, Role: Awardee, Lead Organizer, ($10K, 2019–2020)

- University of Vermont, STEM-ED Grant for multi-departmental collaboration, Role: Awardee, Lead Organizer, ($30K, 2019–2020)

- Northeastern Network Science Institute, Complex Networks Winter Workshop Sponsorship, Role: Awardee, Lead Organizer, ($10K, 2018)

- PLOS ONE, Programmatic Sponsorships, Role: Awardee, Lead Organizer ($2K, 2018)

- Code.org, Regional Partner Grant, Role: Awardee, Regional Partner, ($350K, 2018–2020)

- The Gottesman Foundation, Partial Salary Support for my position at UVM, Role: Awardee, Lead Organizer, ($45K, 2018)

- Boeing and Microsoft, Sponsorship, Gaming, Training and Learning Analytics Workshop, Role: Awardee, Lead Organizer, ($35K, 2016)

- City of Santa Fe, Economic Development Ignite Entrepreneurship Award, Role: Awardee, Co-Founder, ($120K, 2015-2016)

- Corporate Giving Campaign, Thornburg Investment Management Corporation, Sponsorship, SFI Public Lecture Series, Role: Awardee, Lead-Organizer, ($200K, 2014-2017)

- IISER-Mohali, India Complex Systems Winter School, 2015, Role: Awardee, Lead-Organizer, (all local direct programmatic expense, 2015)

- Universidad de Desarrollo, Chile Complex Systems Winter School, 2013, Role: Awardee, Lead-Organizer, ($15K plus all local direct programmatic expense, 2015)

- Los Alamos National Bank, Sponsorship, SFI Public Lecture Series, Role: Awardee, Lead-Organizer, ($50K, 2011-2013)

PUBLICATIONS

Peer-reviewed Publications

- Lovato, J., Hébert-Dufresne, L., St-Onge, J., Harp, R., Lopez, G. S., Rogers, S. P., & Onaolapo, J. (2024). *Diverse Misinformation: Impacts of Human Biases on Detection of Deepfakes on Networks.* npj Complexity (in press) [Link]

- Lovato, J., Mueller, P., Suchdev, P., & Dodds, P. S. (2023). *More Data Types More Problems: A Temporal Analysis of Complexity, Stability, and Sensitivity in Privacy Policies.* In 2023 ACM Conference on Fairness, Accountability, and Transparency doi.org/10.1145/3593013.3594065 [Link]

- Casari, A., Ferraioli, J., & Lovato, J. (2023). *Beyond the Repository: Best practices for open source ecosystems researchers.* Communications of the ACM (CACM). DOI:10.1145/3605160 [Link]

- Price, M., Hidalgo, J. E., Bird, Y., Bloomfield, L. S. P., Buck, C., Cerutti, J., Dodds, P. S., Fudolig, M. I., Gehman, R., Hickok, M., Kim, J., Llorin, J., Lovato, J., McGinnis, E., McGinnis, R. S., Norton, R., Ramirez, V., Stanton, K., Ricketts, T. H., Danforth, C. M. (2023). *A large clinical trial to improve well-being during the transition to college using wearables: The lived experiences measured using rings study.* Contemporary Clinical Trials, 107338. [Link]

- Lovato, J. L., Allard, A., Harp, R., Onaolapo, J., & Hébert-Dufresne, L. (2022). *Limits of individual consent and models of distributed consent in online social networks.* In 2022 ACM Conference on Fairness, Accountability, and Transparency (pp. 2251-2262). 10.1145/3531146.3534640 [Link]

Pre-Prints

- Lovato, J., Zimmerman, J., Smith, I., Dodds, P., Karson, J., (2024) *Setting Alpha for AI Art: A Survey Study of Artist Opinions on Transparency, Ownership, and Fairness in AI Generative Art.* arXiv preprint (submitted) [Link]

- Bloomfield, L., Fudolig, M., Dodds, P., Kim, J., Llorin, J., Lovato, J., McGinnis, E., McGinnis, R., Price, M., Ricketts, T. and Stanton, K. (2023). *Events and Behaviors Associated with Symptoms of Generalized Anxiety Disorder in First-year College Students.* [Link]

- Fudolig, M., Bloomfield, L., Price, M., Bird, Y.M., Hidalgo, JE., Kim, J., Llorin, J., Lovato, J., McGinnis, EW., McGinnis, RS., Ricketts, T., Stanton, K., Dodds, PS., and Danforth CM. (2023). *The two fundamental shapes of sleep heart rate dynamics and their connection to mental health.* [Link]

- Bloomfield, L, Fudolig, M, Dodds, P, Llorin, J, Lovato, J, Kim, J, McGinnis, E, McGinnis, R, Price, M, Stanton, K, Danforth, CM. (2023). *Predicting stress in college freshmen using sleep data from wearable devices.* [Link]

- Dodds, P. S., Alshaabi, T., Fudolig, M. I., Zimmerman, J. W., Lovato, J., Beaulieu, S., & Danforth, C. M. (2021). *Ousiometrics and Telegnomics: The essence of meaning conforms to a two-dimensional powerful-weak and dangerous-safe framework with diverse corpora presenting a safety bias.* arXiv preprint arXiv:2110.06847. (submitted) [Link]

Edited Volumes

- Bongard, J., Lovato, J., Hébert-Dufresne, L., Dasari, R., & Soros, L. (2022). *Introduction to the 2020 Conference on Artificial Life Special Issue.* Artificial Life, 27(3–4), 141-142. [Link]

- Bongard, J., Lovato, J., Hébert-Dufresne, L., Dasari, R., & Soros, L. (2020, July). *The 2020 Conference on Artificial Life (full proceedings).* In ALIFE 2020: The 2020 Conference on Artificial Life. MIT Press. 10.1162 [Link]

Other-writings

- Lovato, J. & Hébert-Dufresne, L. *Reflections on planning virtual science conferences.* Medium, August 6, 2020 [Link]

Thesis

- Lovato, J. L. (2023). Group-Level Frameworks for Data Ethics, Privacy, Safety and Security in Digital Environments (Doctoral dissertation, The University of Vermont and State Agricultural College). [Link], [Defense Video]

- Lovato, J. L. (2012). ἐνέργεια and pleasure in Aristotle's Nichomachean Ethics and Metaphysics (Master's thesis, St. John's College)

AWARDS &
HONORS

- Winner of best talk award ($300). Diverse Misinformation: impacts of human biases on detecting deepfakes on online social networks, September 23, 2022, Computer Science Research Day, University of Vermont.

- 2021 International Society for Artificial Life Exceptional Service award, International Society for Artificial Life, Virtual ALIFE Conference, July 19, 2021
- Runner-up for the Networks 2021 Lightning Talk Award, 2021, Networks 2021: A Joint Sunbelt & NetSci Conference [Video Link]
- Winner of best graduate oral presentation award in Computer and Information Sciences, 2020, SAC-NAS Conference
- Alumni Association Service Award (ALFie), 2015, St. John's College
- Master's Thesis Honors Award, 2012, St. John's College
- MALA Academic Scholarship, 2011 - 2012, St. John's College
- Academic Scholarship, 2006 - 2009, College of Santa Fe
- President's List for Exemplary Skills in Academics, 2008, College of Santa Fe
- Outstanding Award for high GPA and leadership activity, 2007 - 2008, Political Science Department, College of Santa Fe

TALKS

Invited Talks

- Capital City Complex Systems Symposium (keynote), Te Pūnaha Matatini, February 13-14, 2024, University of Auckland, Wellington, New Zealand
- Best practices in open source research, OpenForum Academy Symposium (keynote), November 28, 2023, Technical University Berlin, Berlin, Germany
- Exploring ethical & privacy concerns of online communication platforms, The Global Security Initiative (GSI), Study of the U.S. Institutes Scholars initiative (SUSI), June 27, 2023, Arizona State University
- Distributed consent and observability in social networks, Korean Institute for Advanced Study (KIAS) - Vermont Workshop on higher-order interactions in networks, March 2023, Seoul, South Korea
- Ethics in complex systems, April 11, 2022, University of Michigan, CSAW lecture series
- Introduction the VERSO a new OSPO at UVM, OSPO++ group, February 2022
- Distributed consent and observability in social networks, April 2021, University of Colorado Boulder, Applied Math Department
- Complexity of Open Source, March 2021, MozFest 2021
- Heterotopia in Multi-disciplinary Scientific Generative Processes, September. 2019, Northeastern University Network Science Institute, RADLab, Boston, MA
- The Power of Awkwardness: Generating Meaningful Collaboration Networks in Complex Systems Education, May 2019, NetSci Education Satellite, Burlington, VT
- Introduction to the Makerspace Movement, September 2016, Santa Fe Green Chamber of Commerce Green Drinks, Santa Fe, NM
- Strategic Vision of SFI Education, April 2016, SFI Trustee Symposium, Santa Fe, NM
- Introduction to SFI and Complex Systems, India Complex Systems Summer School, December 2015, Mohali, India
- Importance of Mentorship, Inspire Mentorship Festival, May 2015, Santa Fe, NM
- Introduction to SFI and Complex Systems, University of New Mexico, Annual Anthropology Graduate Student Union Conference, April 2014, Albuquerque, NM
- Santa Fe Institute STEM Opportunities, GUTS y Girls Alumni Club, November 2013, Santa Fe, NM
- Computer Science Education Panel Member, CT Symposium, December 2013, Santa Fe, NM

Community/Campus Talks

- Algorithmic bias and fairness in medicine, Fall, 2024, the University of Vermont Larner College of Medicine, Pediatrics Grand Rounds Seminar Series

- Introduction to Data Ethics, January 8–Jan 12, 2024, University of Vermont, UVM day of data workshop

- Introduction to Data Ethics, December 5, 2024, University of Vermont, CS 1500, course guest lecture.

- AI and humanity: what's the deal and where are we now?, Venetian Soda Lounge, April 25, 2023, Public Philosophy Week 2023.

- Ethical implications of ChatGPT, Burlington High School, Philosophy Club, April 14, 2023

- Introduction to Data Ethics, April 13, 2023, University of Vermont, Data Science 1, course guest lecture.

- Introduction to Data Ethics, November 29, 2022, University of Vermont, Data Science 1, course guest lecture.

- Introduction to ethical considerations of deepfakes, October 31, 2022, University of Vermont, Honors College First Year Sem: Free Will: Agency and Autonomy, course guest lecture.

- Distributed consent and observability in social networks, April 18, 2022, University of Vermont, Social Media Behavior course guest lecture.

- On the Adequacy of Individual Consent for Data Transactions, August. 2020, the University of Vermont Philosophy Department Ethics Reading Group, Virtual

- Time and Project Management Best Practices for Academics - Tutorial, July 2019, University of Vermont, Burlington, VT

Contributed Talks

- Diverse Misinformation: impacts of human biases on detecting deepfakes on online social networks, July 15-21, 2023, IC2S2, Copenhagen, Denmark.

- More data, more problems: a temporal analysis of complexity, stability, and sensitivity in privacy policies, June 12-15, 2023, ACM FAccT Conference 2023, Chicago, USA. [Video Link]

- Diverse Misinformation: impacts of human biases on detecting deepfakes on online social networks, October 19, 2022, 10th Annual Computational Social Science Satellite, Conference on Complex Systems 2022, Palma de Mallorca, Spain.

- Diverse Misinformation: impacts of human biases on detecting deepfakes on online social networks, September 23, 2022, Computer Science Research Day, University of Vermont (Winner of best talk award).

- Diverse Misinformation: impacts of human biases on detection of deepfakes on online social networks, July 20, 2022, LIFELIKE Computing Systems, 10th Edition in the Evolution of the Workshop Series on Autonomously Learning and Optimizing Systems (SAOS), ALIFE 2022

- Distributed consent and observability in social networks, June 21-24, 2022, ACM FAccT Conference 2022, Seoul, South Korea. [Video Link]

- Distributed consent and observability in social networks, June 18, 2022, SciFoo 2022, Palo Alto, California.

- Diverse misinformation: human deepfake detection, University of Vermont, Research Day Lightning Talk, April 2022

- Collective consent in networks, International Social Ontology Society (ISOS) conference, 2021, August 2021 [Video Link]

- Distributed Consent in Online Social Networks, Lightning Talk, 2021, Networks 2021: A Joint Sunbelt & NetSci Conference (runner up for best lightning talk award) [Video Link]

- Ethical Considerations of Dark Data: Making FAIR Data Fair, March 2021, Making Dark Data FAIR: Data, Society, and Open Science III: challenges for data management and data-based research, 3rd conference on Data, Society, and Open Science

- Distributed consent and observability in social networks, October. 2020, SACNAS Conference, winner of best graduate oral presentation award in Computer and Information Sciences

- Distributed consent and its impact on privacy and observability in social networks, lightning talk, July. 2020, Graphs and Networks Workshop 2020, MGGG Redistricting Lab, Virtual

PROFESSIONAL
ACTIVITIES

Boards & Committees

- Board Member/Finance Committee (Previous: Conference Committee), Network Science Society, 2019 - Present

- St. John's College Alumni Association Board, 2023-present

- Network Network Data Sharing Initiative, ongoing 2023-present

- Network Ethics Initiative, ongoing 2023-present

- Advisory Group Member 2021-present: UVM Health Network Data Ethics Advisory Group, University of Vermont Health Network Data Management Office, Burlington VT

- Advisory Board Member 2022-present: NSF funded Growing Convergence Research project on OSS Sustainability Grant, UC Davis and U Mass Amherst

- Advisory Committee, 2020-Present: Computational Biodiversity Science and Services (BIOS2) training program, Universite de Sherbrooke (Quebec)

- Executive Committee Member, US-NE) Chapter of the Complex Systems Society, 2019 - Present

- Committee Member, 2020-present: Diversity Equity and Inclusion Committee (DEIC), University of Vermont College of Engineering and Mathematical Sciences, Burlington VT

- Co-Founder, Vermont Computer Science Alliance, CSTA VT, 2018-2020

- Board Member/Education Committee Chair, Generator Makerspace, 2018 - 2020

- Board Member, MAKE Santa Fe, 2015 - Present

- Board Member, Los Alamos National Laboratory Foundation, 2015 - 2020

- Founding Advisory Committee, Mandela International Magnet School, 2014 - 2020

- Board Member, Santa Fe Railyard Community Corporation, 2014 - 2017

- Digital Learning Advisory Committee, Santa Fe Public Schools, Santa Fe PED, 2014 - 2016

- Science Fair Judge, New Mexico Department of Education, 2013 - 2016

- Social Media and Promotion Volunteer, Santa Fe Alliance for Science, 2011 - 2013

- Board Member, Santa Fe Alliance for Science, 2012 - 2015

- Strategic Planning Committee, Monte del Sol Charter School, 2012 - 2013

Professional Service

- Reviewer for PLOS ONE, JOTS
- Review panels for Alfred P. Sloan Foundation 2022-2023
- Program Committee Member, NetSci 2022-2023
- Vermont Science Olympiad Judge 2020 and 2023
- Poster Session Chair, Networks 2021 (joint Sunbelt NetSci Conference)
- Senior Program Committee Member, Networks 2021 (joint Sunbelt NetSci Conference)
- Program Committee Member, NetSci 2020, Rome
- Poster Judge, NetSciX 2020, Japan

Selected Organization of Conferences & Programs

- Santa Fe Institute Dynamics of Interacting Contagions, Workshop Co-Organizer, 2023, Santa Fe, NM, USA
- Complex Networks Winter Workshop, Lead Organizer, 2018-present Québec, QC, CA, Virtual, Australia
- Talkboctopus Virtual Seminar Series on Complex Systems and Data Science, 2020-2022, Virtual
- NetOpen21: modeling open innovation communities with network science satellite workshop, July 2021, Networks 2021 (join NetSci/Sunbelt Conference)
- Open Source Complex Ecosystems and Networks, Workshop and working group, 2020, Virtual
- Understanding and Exploring Network Epidemiology in the Time of Coronavirus (NET-COVID), Workshop. Co-Organizer, 2020, Virtual
- Artificial Life (ALife) Conference, General Conference Chair, 2020, Virtual
- Northeast Regional Conference on Complex Systems, School Organizer, 2020, Virtual
- NetSci, General Conference Chair, 2019 Burlington, VT, USA
- The Science of Stories Symposium, Lead Organizer, 2018, Burlington, VT, USA
- The Symposium on Complexity in Health and Wellness Behavior, Lead Organizer, 2018, Burlington, VT, USA
- SFI Complex Systems Summer School, Lead Organizer, 2011-2016, USA, Chile, India
- SFI Executive Education Short Course: Exploring Complexity in Innovation and Invention, Austin, TX, USA
- For a full list of programs, please visit my website http://juniperlovato.com/programs

Professional Development & Activities

- International Conference on Computational Social Science IC2S2 2023
- Korean Institute for Advanced Study (KIAS)-Vermont Workshop on higher-order interactions in networks, March 2023, Seoul, South Korea
- SciFoo Camp, June 17-19, 2022, Mountain View, California
- ACM Conference on Fairness, Accountability, and Transparency (ACM FAccT), 2021-2023
- NetSci Conference, 2017-present
- Artificial Life (ALife) Conference, 2019-2023

- Social Ontology 2021, Virtual, August 2021

- Upstate Workshop on AI and Human Values, May 2021

- FAccT Doctoral Consortium, March 3, 2021

- ACM Conference on Computer-Supported Cooperative Work and Social Computing, October 17 - October 21, 2020

- Grace Hopper Celebration, 2019 and 2023

- Computer Science Teachers Association Conference, 2019

- Sentinelle Nord's Annual Science Conference, 2018

- Code.org Regional Partner Summit, CSEdCon, 2018, 2019

- CISE National Science Foundation, PI Conference, 2016

- Chamber of Commerce, Essentials for Management Course, 2016 (ten-weeks)

- Workshop and Collaboration: Workshop Participant CORE/SFI economics e-textbook and online learning platform development, Teaching and Learning Economics as if the Last 30 Years Had Happened, In collaboration with Sam Bowles, (February 2016)

- SACNAS Conference, Advancing Chicanos, Hispanics and Native Americans in Science, 2015 and 2014, 2020

- CCS Conference on Complex Systems, 2015

- Leadership Santa Fe, Class of 2013

- Social Media Intelligence Summit, 2012

- AmeriCorps Conference, Positive Youth Development Summit, 2009

Teaching

- (2021) Teaching Assistant, University of Vermont: Data Ethics [online]

- (2012) Teaching Assistant, St. John's College: Ancient Greek [in-person]

SELECTED PRESS AND MEDIA

- UVM Earns $20M Research Grant to 'Harness the Data Revolution', UVM Press Release, May 2023

- Sustain Podcast with Amanda Casari, Julie Ferraioli & Juniper Lovato and open source ecosystems research, November 24th, 2023

- UVM Researchers Advocate for regulation to Protect Workers from AI Threats, Cryptopolitan, by John Palmer, October 2023

- UVM researcher calls for workers' protection from AI, WCAX TV interview, October 2023

- UVM Gets $1 Million From Google For Open Source Research, WAMC, January 2020

- **Technical:** Python, Pandas, Web scraping, APIs, R, textual analysis NLP, data wrangling, data visualization, modeling and simulation, statistical and machine learning, time-series analysis, SQL, HTML, SPSS, LaTex, survey/focus group development, and evaluation methods.

- **Languages:** English (Native), Ancient Greek (Basic Translation)

- **Professional Affiliations and Societies:** Complex Systems Society, Network Science Society, International Society on Artificial Life, Computer Science Teachers Association, Society for Advancement of Chicanos/Hispanics and Native Americans in Science.

- **Additional:** Knowledge of Next Generation Science Standards and CSTA standards, frameworks for 21st Century Learning, e-learning and LMS software, General Accepted Accounting Practices, lean-startup agile project management techniques, and tools.