Jesse Dunietz

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Communication, Writing, & Policy Experience

US Department of State, Washington, DC: *AAAS Science & Technology Policy Fellow* *Jan. 2022–present*
- Review & recommend policies related to AI & other digital technologies to ensure human rights protections

MIT Comm. Lab, Cambridge, MA: *Instructional Designer (20–50% FTE)* *Apr. 2018–Dec. 2021*
- Designed, revised, and co-delivered suite of 9+ training workshops on best practices in coaching and technical communication for graduate Fellows who coach other STEM students on scientific communication tasks
- Managed data collection for the Communication Lab's research study on the effectiveness of its coaching
- Planned & led strategic planning workshops to help institutions' staff build Comm Lab-like programs

Scientific American, SciShow, Popular Mechanics, & others: *Freelance Science Writer* *Aug. 2013–Jul. 2019*
- Wrote articles and video scripts about comp. sci. & physics (>30 total, listed at jesseduniet z.contently.com)

Securing America's Future Energy, Washington, DC: *Technology, Energy, & Society Fellow* *Mar.–Nov. 2018*
- Wrote 3 articles + 1 video script on autonomous vehicles for SciAm, SciShow, & others, with SAFE's support

Scientific American, New York, NY: *AAAS Mass Media Fellow* *June–Aug. 2017*
- Reported and wrote 11 in-depth pieces for Scientific American's news website and print "Advances" section

Research & Engineering Experience

Scholarly publications: 8 archival (with 192 total citations) + 2 non-archival; see website for details.

Elemental Cognition (EC), Westport, CT: *Researcher (80% FTE)* *Feb. 2019–Sep. 2021*
- Led efforts to define & evaluate desired capabilities for EC's deep natural language understanding technology
- Identify, explore, and prototype marketable applications for the company's technologies (with CEO & team)
  - Built multi-thousand-line, Prolog-like logic program to encode business rules of novel travel application
- Articulate company's vision and approach for investors, researchers, & public via blog posts (5 to date), academic papers (1 written, 1 edited), whitepapers (1), and earned media (e.g., MIT Technology Review op-ed)
  - Led to an investment round, inquiries from researchers & potential clients, & 3 talk/podcast invitations

Carnegie Mellon University, Pittsburgh, PA: *Ph.D. Student (Natural Language Processing)* *June 2011–Jan. 2018*
- Created comprehensive annotation scheme to represent causal relationships expressed in text
- Managed 4 annotators to produce a ~4900-sentence textual corpus exhaustively annotated for causal language
- Published 3 novel automated techniques for extracting causal relations, including a deep neural network
- Analyzed responses of macaque visual cortex to 3D-like stimuli with custom software *(with previous advisor)*

Google, Mountain View, CA: *Software Engineering Intern* *June–Aug. 2011; May–Aug. 2013*
- Developed novel machine learning model for rating entities' centrality within a document (published in 2014)
- Explored and implemented techniques for identifying high-quality responses to controversial Internet articles

MIT (Genesis group/Media Lab), Cambridge, MA: *Undergrad. Researcher* *Sep. 2010–May 2011; Oct. 2008–Mar. 2009*
- Incorporated "structure mapping" analogy algorithm into Genesis story-processing system to compare stories
- Implemented "spreading activation" relevance algorithm for ConceptNet commonsense knowledge base

SLAC National Accelerator Laboratory, Menlo Park, CA: *DOE "SULI" Intern* *June–Aug. 2010*
- Built software framework for representing high-energy particle decays, including a description language and decay visualizer, to save collider physicists days of pre-analysis effort

NASA/Johns Hopkins University Applied Physics Laboratory: *Heliophysics Software Intern* *June–Aug. 2009*
- Built software and refined file formats to help physicists store, share, and process heliophysics datasets

Check Point Software, Tel Aviv, Israel: *Software Engineering Intern* *June – Aug. 2008*
- Researched and implemented VPN integration of SAML, a protocol for exchanging security information
- Created proof-of-concept browser extensions to add toolbars and transparently rewrite URLs being loaded

PUBLIC & PROFESSIONAL SERVICE

International Center for Advocates Against Discrimination (ICAAD): *Advisor on AI* *Jan. 2020–present*
- Advise on artificial intelligence's impact on human rights, particularly how to map between the needs and concerns of anti-discrimination work and the technical capabilities of modern AI systems

Climate Change AI (CCAI): *Media Outreach Lead* *Nov. 2020–present*
- Develop & execute publicity strategies for CCAI's work on using AI to help research/mitigate climate change
- Editor-in-chief for CCAI's blog

Science Communication Trainers Network: *Member & Volunteer* *Oct. 2019–Dec. 2020*
- Assisted with strategic planning for the nascent network, particularly how to define and expand membership

Public Communication for Researchers (PCR), CMU, Pittsburgh, PA: *President* *June 2012–Dec. 2016*
- Founded and developed student group that has trained hundreds of CMU students in public communication
- Co-taught ~18 communication workshops for CMU students, faculty, & alumni; U. of Pittsburgh; & others
- Negotiated with administration to build long-term institutional support for the program
- CMU Graduate Student Service award, awarded in 2015, recognized these efforts

ComSciCon National Conference, Cambridge, MA: *Organizing Committee Member* *Sep. 2013–June 2015*
- Planned & ran science communication programming for graduate students, incl. finding & inviting speakers

EDUCATION

Carnegie Mellon University (CMU) *Ph.D. in Computer Science, January 2018*
Massachusetts Institute of Technology (MIT) *S.B. in Computer Science, June 2011*
University of Cambridge *1-year exchange program from MIT (2009–2010)*

SKILLS

Software and technology development:
- Experienced software developer; at home in Python, C/C++, Java, JavaScript, HTML/CSS, Bash, & others
- Familiar with Amazon Web Services and Microsoft Azure cloud computing environments
- Comfortable analyzing data, selecting statistical models, & implementing them in machine learning toolkits

Communication:
- Strong presenter/speaker, honed via running PCR (see above), research presentations, and teaching
- Adept at sharing complex ideas with diverse audiences (from PCR, other workshops, & science writing)
- Clear, concise writer

Leadership:
- Strong track record of envisioning organizational strategies, navigating institutional structures, building consensus, guiding discussions to next steps, and mediating conflicts