

DAVID GRAY WIDDER^{HE/HIM/HIS}

School of Computer Science, Carnegie Mellon University
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Academic Employment

Digital Life Initiative, Cornell Tech, New York City, New York. Starting September 2023

Post-doctoral Fellow, collaborating with Helen Nissenbaum.

School of Computer Science, Carnegie Mellon University, Pittsburgh, Pennsylvania. 2017–2023

PhD in Software Engineering

Committee: Laura Dabbish & James Herbsleb (co-chairs), Dawn Nafus, Jay Aronson

Masters of Science in Software Engineering, earned 2021

Robert D. Clark Honors College, University of Oregon, Eugene, Oregon. 2013-2017

Bachelor of Science in Computer Science, GPA: 3.95, Major GPA: 4.15, *Magna Cum Laude*

Thesis committee: Stephen Fickas (chair), Helen Southworth, Boyana Norris.

Related Work Experience

Responsible AI Research Intern, Intel Labs. Remote. July 2021 – May 2022

Designed and led research to improve company Responsible AI policy

Findings were presented to C-suite decision makers as AI policy recommendations

Led two workshops to translate findings into AI Ethics policy improvements

Presented findings to 150+ employees in two internal invited talk series

Responsible AI Research Intern, Microsoft Research. Washington. February – May 2020

Interviewed adopters of pilot AI Ethics guidance to find technical and organizational barriers

Presented findings to C-suite decision maker to inform internal Ethical AI policy roll out

Trustworthy AI Research Intern, Jet Propulsion Laboratory, NASA. California. June – August 2019

Conducted interviews, participant observation, and user studies to study software engineer's trust in an automated software engineering tool

Presented usability improvements to software team to improve software framework

Working Papers

Blair Attard-Frost and **David Gray Widder**. "The Ethics of AI Value Chains: An Approach for Integrating and Expanding AI Ethics Research, Practice, and Governance". 2023. [PDF](#), [TLDR](#).

David Gray Widder, Sarah Myers West, and Meredith Whittaker. "Open (for Business): Big Tech, Concentrated Power, and the Political Economy of Open AI". Forthcoming.

Peer-Reviewed Publications

David Gray Widder and Dawn Nafus. "Dislocated Accountabilities in the AI Supply Chain: Modularity and Developers' Notions of Responsibility". In: *SAGE Journal of Big Data & Society*, 2023. [PDF](#), [TLDR](#).

David Gray Widder*, Derrick Zhen*, Laura Dabbish, James Herbsleb. “It’s about power: What ethical concerns do software engineers have, and what do they (feel they can) do about them?” *denotes equal contribution. In: *Proceedings of the ACM Conference on Fairness, Accountability, and Transparency* (FAccT), 2023. 24% acceptance rate. [PDF](#). [TLDR on Twitter](#), [Mastodon](#).

David Gray Widder, Dawn Nafus, Laura Dabbish, James Herbsleb. “Limits and Possibilities for ‘Ethical AI’ in Open Source: A Study of Deepfakes”. In: *Proceedings of the ACM Conference on Fairness, Accountability, and Transparency* (FAccT), 2022. 26% acceptance rate. [PDF](#), [Video](#), [TLDR](#).

Hana Frluckaj, Laura Dabbish, **David Gray Widder**, Sophie Huilian Qiu, James Herbsleb. “Open Source Software Participation Trajectories for Male and Female Participants” In: *Proceedings of the ACM Conference on Computer-Supported Cooperative Work And Social Computing* (CSCW), 2022. 25% acceptance rate. [PDF](#), [Video](#).

David Gray Widder, Laura Dabbish, James Herbsleb, Alexandra Holloway, Scott Davidoff. “Trust in Collaborative Automation in High Stakes Software Engineering Work: A Case Study at NASA”. In: *Proceedings of the ACM Conference on Human-Computer Interaction* (CHI), 2021. 26% acceptance rate. [PDF](#), [Video](#), [TLDR](#).

David Gray Widder, Michael Hilton, Christian Kästner, and Bogdan Vasilescu. “A Conceptual Replication of Continuous Integration Pain Points in the Context of Travis CI”. In: *Proceedings of the ACM Joint European Software Engineering Conference and Symposium on the Foundations of Software Engineering* (FSE), 2019. 24% acceptance rate. [PDF](#), [Replication Package](#).

David Gray Widder, Joshua Sunshine, Stephen Fickas. “Barriers to Reproducible Scientific Programming”. In: *Proceedings of the IEEE Symposium on Visual Languages and Human-Centric Computing*, Short Research Papers Track (VL/HCC), 2019. 44% acceptance rate. [PDF](#).

Zack Coker, **David Gray Widder**, Claire Le Goues, Christopher Bogart, and Joshua Sunshine. “A Qualitative Study on Framework Debugging”. In: *Proceedings of the IEEE Conference on Software Maintenance and Evolution* (ICSME), 2019. 23% acceptance rate. [PDF](#).

Courtney Miller, **David Gray Widder**, Christian Kästner, and Bogdan Vasilescu. “Why do People Give Up FLOSSing? A Study of Contributor Disengagement in Open Source”. In: *Proceedings of the Conference on Open Source Systems* (OSS), 2019. [PDF](#).

David Gray Widder, Christian Kästner, Michael Hilton, Bogdan Vasilescu. “I’m Leaving You, Travis: A Continuous Integration Breakup Story”. In: *Proceedings of the Conference on Mining Software Repositories, Short Research Papers Track* (MSR), 2018. 27% acceptance rate. [PDF](#).

Other Publications

Work in this list is not peer-reviewed. Read or cite them with appropriate scrutiny.

David Gray Widder and Richmond Wong. “Thinking Upstream: Ethics and Policy Opportunities in AI Supply Chains”. In: *Designing Technology and Policy Simultaneously: Towards A Research Agenda and New Practice*, 2023. A workshop co-located with CHI’23. [Link](#).

David Gray Widder. “Gender and Robots: A Literature Review”. Technical Report, 2019. [Link](#).

David Gray Widder. “Gender in Open Source Communities: Different Migration Patterns and Forms of Work”. *VL/HCC Graduate Consortium*, 2019. [Link](#).

David Gray Widder. “Tensions Between Scientific Programming and the Scientific Method”. *Undergraduate Honors Thesis*. Pass with Honors, 2017. [Link](#).

David Gray Widder. “What Are Barriers to Efficient ROS Debugging?” *REUSE Poster Session*. 2016.

Invited Talks and Panels

I'm happy to give a talk about my published or ongoing work, or repeat any of the following:

"Putting Human-AI Trust in an Organizational and Supply Chain Context". Invited Lecture, hosted by Professor Uta Wilkens, at Ruhr University Bochum, scheduled for 6 November 2023.

"Trust in Human-AI Interaction: Context Matters". Invited Lecture, hosted by Professor Haiyi Zhu's Human-AI Interaction course, Human-Computer Interaction Institute, Carnegie Mellon University, scheduled for 11 October 2023.

"Artificial Intelligence, openness, and 'existential' risk: well informed vibes on what is hype and what is real". Invited Panel, with Avijit Ghosh and Fabio Tollon and hosted by Wei Sun, at the [Boston Computation Club](#), scheduled for 7 October 2023.

"Openness in AI: Upsides, Downsides, and Corporate Power". Invited lecture, hosted by Jennifer Dumas, JD, at the Seattle University Law School, 21 June 2023.

"Upstream AI Supply Chains". Fireside chat, in conversation with Catherine Stihler, CEO of Creative Commons, moderated by Luis Villa, General Counsel of Tidelift, as part of the Upstream conference. 7 June 2023. [Video](#).

"Openness in AI Production: Upsides, Downsides, and Middle Ground Approaches". Invited lecture, hosted by Professor Maarten Sap, at the Allen Institute for AI, 6 April 2023. [Slides](#), [Video](#).

"// MODULARITY, BUG // An Anthropological Examination of the Epistemic Implications of Two Core Ideas in Computer Science". Invited talk and panel discussion at the annual meeting of the Society for Applied Anthropology, Cincinnati, with panel chair Professor Hsain Ilahiane, 30 March 2023. **Winner of the 2023 Beatrice Medicine Award**. [Slides](#).

"Ethical AI in Open Source". Invited Lecture, hosted by Dr. Ola Michalec for the [Data Ethics Club](#) at the University of Bristol, 8 March 2023.

"So you have an Ethical Concern: What Next?", for Professors Emma Strubell and Maarten Sap's Computational Ethics for NLP course, Language Technologies Institute at Carnegie Mellon University, 16 February 2023.

"AI Trust in a High Stakes Workplace: An Ethnography at NASA", hosted by Senior Lecturer Rikke Jensen at the [Information Security Group](#) at Royal Holloway University of London, 1 June 2022.

"Situating 'AI for Social Good' and 'AI Ethics' at Carnegie Mellon & in our Future Careers", for Professors Emma Strubell and Alan Black's Computational Ethics for NLP course, Language Technologies Institute at Carnegie Mellon University, 5 April 2022.

"'Ethical AI' Across the AI Supply Chain: The Developer's Perspective", with Dawn Nafus at the Intel Insights Discussion Forum invited talk series, hosted by Michael Jacobson at Intel Corporation, 16 December 2021, and presented earlier at the Data Science Center of Excellence invited talk series, hosted by Joyce Weiner at Intel Corporation, 9 September 2021.

"'Responsible AI'? Complicating and Situating Accountability, Transparency, and Trust", invited by Dr. John W. Sherry to present to the User Experience Innovation Lab, Intel Labs, 20 May 2021.

"Usability Barriers in the F-prime Flight Software Framework", hosted by Dr. Scott Davidoff and Jeff Levison at the Jet Propulsion Laboratory, August 2019

Public Scholarship and Selected Media

I see public scholarship as a core duty. I often write about my research for a wider audience, and discuss my research and activist work with the media.

I started and facilitate a weekly [Critical AI Studies Reading Group](#), convening international and interdisciplinary academics, software practitioners, and participants from civil society. We meet on Thursdays at 6pm ET. July 2022 – Present. Open to all!

Research summary on AI Ethics newsletter: “AI supply chains make it easy to disavow ethical accountability”, David Gray Widder writing for the [Montreal AI Ethics Institute](#). 9 August 2023.

Profile of impact of recent work: “Widder Wins Beatrice Medicine Award for AI Ethics Research”, written for Josh Quicksall in [S3D’s departmental news brief](#). 1 August 2023.

Anthropology podcast interview: “Developing Responsible AI”, in conversation with Dawn Nafus and Adam Gamwell on [This Anthro Life](#), 2 June 2023.

Research paper featured in French tech news site: “Éthique: les développeurs et développeuses ont-ils la possibilité de répondre à leurs questionnements?”, Martin Clavey writing for [NextInpact](#). 19 April 2023.

Activism profiled in article: “Inside the bitter campus privacy battle over smart building sensors”, Eileen Guo and Tate Ryan-Mosley writing for [MIT Technology Review](#). 3 April 2023.

Quoted in white paper on Open Source AI, released by the Open Source Initiative governing body: “[Deep Dive: AI - Final Report](#)”. Stefano Maffulli, Executive Director, Open Source Initiative. 28 February 2023.

Research paper featured in French tech news site: “Comment se construit la confiance dans un logiciel de génération automatique de code?”, Martin Clavey writing for [NextInpact](#). 9 February 2023.

Spoke about our research on open source contributor disengagement: “Small open source projects pose significant security risks”, Stephanie Glen writing for [TechTarget](#). 28 November 2022.

Spoke about research on software engineers’ ethical concerns: “Twitter Employees on Visas Can’t Just Quit”, Chloe Xiang writing for [Vice’s Motherboard](#). 18 November 2022.

Podcast Interview: “Building creative restrictions to curb AI abuse”, in conversation with Stefano Maffulli, Executive Director of the Open Source Initiative, as part of their [Deep Dive AI](#) podcast series. 6 September 2022.

Wrote article for software engineering practitioner blog: “Can you stop your open-source project from being used for evil?”, David Gray Widder writing in the [Stack Overflow blog](#), 8 Aug 2022.

Wrote article for software engineering practitioner blog: “‘Ethical AI’ isn’t just how you build it, it’s how you use it”, David Gray Widder writing in the [Stack Overflow blog](#), 30 May 2022.

Email interview, research paper quoted in practitioner blog: “The robots are coming for (the boring parts of) your job”, Eira May writing in the [Stack Overflow blog](#), 21 April 2022.

Podcast interview: “Computers Aren’t Demigods: On the existence of Bias-Free systems”, in conversation with hosts Ellie Young and Matt Lepinski on [Byte Size](#), 4 May 2021.

Co-lead letter campaign with Victoria Dean for anti-racist institutional change within CMU’s School of Computer Science, with 40 research-supported, actionable demands, accruing 605 signatories and 110+ personal testimonies. “Towards Anti-Racist Change in the School of Computer Science”, 11 September 2020. [Link to signed letter](#).

City Council testimony, newspaper interview: “Pittsburgh City Council told facial recognition bill should be stronger”, Tom Davidson reporting for [TribLive](#), 2 September 2020.

Teaching and Pedagogical Activities

Advocated for, developed, and delivered the first ethics content in Carnegie Mellon’s Software Engineering PhD curriculum. Curated reading assignments, delivered lectures, facilitated accompanying discussions, and graded reading responses. *Introduction Course for Software Engineering PhD Students*, with Professors Jonathan Aldrich and Christian Kästner. Fall 2022, 2023. PDF of readings and discussion questions for [Ethics in Software Engineering Practice](#), [Ethics in Software Engineering Research](#), slides for both lectures.

Teaching Assistant for [Ethics and Policy Issues in Computing](#), Spring 2021. Course Instructors: Laura Dabbish and James Herbsleb, Carnegie Mellon University. Held office hours, lead breakout discussions, graded and gave feedback on exams and assignments.

Teaching Assistant for [Human Factors in Human-Computer Interaction](#), Fall 2019. Course Instructor: Laura Dabbish, Carnegie Mellon University. Guest lectured, held office hours, graded and gave feedback on exams and assignments.

Student Research Mentorship

Feature about my undergraduate mentoring work: “REUSE Mentors Students to Success”, Cristina Rouvalis writing in The Link, Magazine of CMU’s School of Computer Science, Summer 2019. Related video.

Clara Na, 2022 – Present, PhD student at Carnegie Mellon University

Amanda Bertsch, 2022 – Present, PhD student at Carnegie Mellon University

Sireesh Gururaja, 2022 – Present, PhD student at Carnegie Mellon University

Derrik Zhen, 2022 – Present, undergraduate at Swarthmore College

Lyric Sampson, 2022, undergraduate at Alabama Agricultural and Mechanical University

Hana Frluckaj, 2019 – 2020, now a PhD Student at University of Texas at Austin

Courtney Miller, 2018 – 2019, now a PhD Student at Carnegie Mellon University

Jamie Rosas-Smith, 2018, now a PhD student at Johns Hopkins University

Institutional Service

Application Reviewer, Research Experience for Undergraduates, 2018-Present

Reviewed 25-35 applications for the REUSE program yearly.

Dean’s PhD Advisory Committee, Co-Director, 2017 - 2020, Member, 2020 - 2021

Advocating for SCS PhD student interests to Dean: i.e. healthcare, anti-racism, advising issues.

Departmental Climate Task Force, Student Co-Chair, 2018 - 2019

Committee tasked with improving departmental climate, inclusiveness, and diversity.

Nominee for Carnegie Mellon University Graduate Student Service Award, 2019

Nominated for school-wide award recognizing my advocacy for graduate student causes

Research Experience for Undergraduates in Software Engineering Mentor, 2018, 2020

Mentored summer undergraduate research interns as part of the REUSE summer program

Professional Service

SAGE Big Data & Society (BD&S), 2023 Reviewer

ACM Conference on Fairness, Accountability, and Transparency (FAccT), 2023 Reviewer

ACM Conference on Human-Computer Interaction (CHI), 2020, 2021, 2023 Reviewer

IEEE/ACM International Conference on Automated Software Engineering (ASE), 2018 Sub-reviewer

IEEE Transactions on Software Engineering (TSE), 2018 Sub-reviewer

Community Service and Activism

Election worker 2020-2022, Judge of Elections 2023, Ward 8 District 3: ensuring all eligible voters can easily vote at the polling place

Against Carceral Tech Pittsburgh organizer: organizing across the CMU and wider Pittsburgh community against carceral technology

CMUBetter organizer: building graduate student solidarity for better working conditions and pay

#NoTechForICE organizer: organizing against Immigration and Customs Enforcement and contractor companies recruitment events on campus

Memberships and Affiliations

Coveillance Collective: arts and technology group building counterpower to surveillance

Association for Computing Machinery (ACM); Special Interest Groups for: Software Engineering (SIGSOFT), Computer-Human Interaction (SIGCHI)

Upsilon Pi Epsilon, Honor Society for Computing and Information Disciplines

Phi Beta Kappa, Liberal Arts Honors Society