I542 FALL 2024, SECTION 30644 VERSION 10012024

Foundations of Human-Computer Interaction Design

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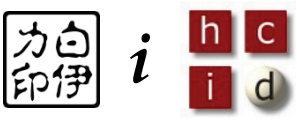

Instructor

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Office Hours: Thursdays 3:00-4:30 PM MBH West 200

Associate Instructors

Rutvi Bhavsar, Rutvi *rubhavs@iu.edu*
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Tuesdays 11:00-12:00 AM

For Associate Instructor Office Hours, kindly use the Zoom links provided on Canvas

Format

Each week, our meetings will have the following three modalities (the idea of *tiles* is described below in the section on deliverables):

PART A
Meet in AI led breakouts, share *tiles*, select *tiles* to represent group

PART B
Meet altogether, each group presents selected *tiles*,

PART C
Mini lecture, reflection on last week's reading, following week's readings, and deliverables assigned, What indeed? HCI/d professional concept of the week.

Learning Outcomes

Bulletin Description: This course offers a survey overview of the field of Human-Computer Interaction Design. Students are introduced to key HCI themes and concepts, set generally in a historical context. These themes incorporate perspectives from [D]esign, cognitive science, distributed cognition, computer-supported cooperative work and social computing, ubiquitous computing, and other emerging areas of HCI[/d] scholarship.

Additional Description: It is tempting to imagine that there is a canonical collection of readings that represent HCI and Design. In fact, there is no such canon in any static sense. Rather, HCI and Design have dynamic and evolving literatures. The primary goal of this class is to introduce participants to a wide variety of sources in order to acquire an appreciation for the breadth and variety of writings that inform our area of practice and scholarship. The readings are carefully considered to represent current events journalism relating to interaction (sources that are generally 30-90 days old), topical scholarship or practice (sources that are generally no older than 5 years), and classics (sources that may be older than 5 years but are truly seminal in a meaningful sense).

At the end of the class, participants will learn how to find sources and discern the quality of sources. Participants will also gain an understanding of the following themes highly germane to claims of foundational knowledge in HCI and Design, namely:

- Framing HCI and Design
- Human-Centered vs Humanity-Centered Design
- Transdisciplinary Design
- Structure-Preserving Transformations
- Critical Design
- HCI/d and Spirituality
- Sustainable Interaction Design, (SID, SHCI)
- AI & HCI/d
- Pictorials, CHI(Art), Collections, Curations
- Non-Linear Design Thinking
- Cognition
- Breakdown, Ontological Design
- The Novacene
- Self-Reliance
- Accessibility, Aging
- Science and Design

Additional themes not listed above may be covered in Part C of each class meeting. Participants may request a theme be added for discussion, time permitting.

Deliverables

Each week participants will create three *tiles* that may be shared. A tile is a slide that serves as the expression of the project content as shown in the Project column of the schedules that follow. Your slides will always emphasize minimalist aesthetics; accessibility; original authentic visual forms; everything essential, nothing inessential; clear and professional in every detail; properly attributed sources and tools; clearly labeled contributor names. Expect to commit 10 hours per week including class time to this class—no more, no less. Your slides *may* be compiled into online digital quilts to show the collective class work as a matter of constructivist learning.

You will place your three tiles (slides) into a PDF file in 8.5x11 landscape mode. You will also supply a thumbnail image in dimensions 360x360 pixels @ 72 pixels-per-inch.

Grading

Your work will be graded each week using the following rubric:

- Quality
- Production Values
- Originality

For each of these rubric items, AI's will assign either a "+" for professional, publishable quality work, a "=" for quality work that meets the standard of a valuable contribution, and a "-" for work that may need improvement. So, for example, the string "=+=" denotes standard quality, high production values, and standard originality. The reason for this notation system is that the class is large, and the AI's need a consistent, tractable way to give feedback within the time constraints of giving feedback to every individual in a larger class environment.

Rubric Notation	**Letter Grade**
+++	A+
++=, +=+, =++	A
+==, =+=, ==+	A-
===, +-=, +=-, -+=, =+-, -=+, =-+	B+
-==, =-=, ==-, +--, -+-, --+	B
---, =--, -=-, --=	B-

During the course you will submit (exactly) 3 tiles in weeks 2-13 in response to the readings according to the project descriptions. You will also submit a Best-of Portfolio in week 16.

You may attend by Zoom or in-person. In-person is preferred. However, if you are unwell or suspect you may be unwell, do not attend in-person. Attending by Zoom or attending in-person count the same apropos of the participation grade. The final grade will be calculated as follows

Weekly Projects 78%
Participation 12%
Final Project 10%

The standard for an A grade is excellence. The standard for an A+ grade is publishable and professional in every detail.

Participation

As a matter of ensuring that all voices are heard, I will call on participants in a random but systematic order to present, comment, or ask questions. If you attend regularly and learn the names of all participants because you have listened to them carefully as well as having thoughtful things to say yourself, your participation grade should be high.

Notices

Subject to Change: The schedule, including readings or prompts and project descriptions are subject to change.

This class is inspired in many ways by Prof. Hamid Ekbia who taught it for many years. Many of the details have changed. Notwithstanding, the spirit of the class very much owes to Prof. Ekbia.

Cover Photograph, E. Blevis, 2024.

Substitutions: What if you don't like a particular week's core assigned reading for any reason? No problem. You may substitute any reading from the lists of alternative readings later in this syllabus, or from any of the sources recommended later in this syllabus. You still need to present your deliverable for the week in the project form requested. So, for example, in week 3, you may substitute any reading germane to humanity-centered design for the assigned reading as the prompt to your weekly project. You should not expect that everyone in the class will have read the paper or article that you substitute, so be prepared to let others know the key takeaways from the reading you substitute in a fashion that does not assume that they have read the paper or article.

In the schedules that follow, *Core Readings* are required reading. *Recommended Additional References* are highly recommended reading, but not strictly required. There are many *Additional References* listed in this syllabus. These are not required but provided apropos of the note above.

Schedule, Weeks 1-3

Week	Themes	Readings or Prompt	Project Form
1	Introduction Sources		
2	Framing HCI and Design	*Core Reading* • Steve Harrison, Deborah Tater, and Phoebe Sengers. **2007**. The Three Paradigms of HCI. *https://api.semanticscholar.org/CorpusID:5250658*	Something New, Something Old, Something Else that Should be Told
3	Human-Centered vs Humanity-Centered Design	*Core Reading* • Donald A. Norman. **2023**. Design for a better world: Meaningful, sustainable, humanity centered. MIT Press. Chapter 22.	Humanity-Centered Transformations

Schedule, Week 4

Week	Themes	Readings or Prompt	Project Form
4	Transdisciplinary Design	*Core Reading* • Colin M. Gray and Austin L. Toombs. **2024**. Themes, Lenses, and Materials: Three Perspectives on HCI Program Development. In Proceedings of the 6th Annual Symposium on HCI Education (EduCHI '24). Association for Computing Machinery, New York, NY, USA, Article 4, 1–5. *https://doi.org/10.1145/3658619.3658622* *Recommended Additional References* • Manfred A. Max-Neef. **2005**. "Foundations of transdisciplinarity." *Ecological economics* 53, no. 1 (2005): 5-16. • Erich Jantsch. **1972**. "Inter- and Transdisciplinary University: A Systems Approach to Education and Innovation." *Higher Education* 1, no. 1 (1972): 7–37. *http://www.jstor.org/stable/3445957*. • Basarab Nicolescu. **2002**. "Manifesto of Transdisciplinarity, (translated by Claire Voss). *State University of New York Press, Albany.* • Cynthia Mitchell. **2023**. "Max-Neef 2005 and the great transdisciplinary swindle: Lack of originality or something more worrisome?" *Ecological Economics* 213 (2023): 107953. • Huaxin Wei, Jeffrey C. F. Ho, Kenny K. N. Chow, Shunying An Blevis, and Eli Blevis. **2019**. Should Do, Can Do, Can Know: Sustainability and Other Reflections on One Hundred and One Interaction Design Projects. In Proceedings of the Fifth Workshop on Computing within Limits (LIMITS '19). Association for Computing Machinery, New York, NY, USA, Article 6, 1–18. *https://doi.org/10.1145/3338103.3338109*	Should do, Can do, Can know, Forms And/or Themes, Lenses, Materials

Schedule, Week 5

Week	Themes	Readings or Prompt	Project Form
5	Structure-Preserving Transformations, Critical Design, Religion and Spirituality	*Alternative Core Reading* • William Gaver, Mark Blythe, Andy Boucher, Nadine Jarvis, John Bowers, and Peter Wright. **2010**. The prayer companion: openness and specificity, materiality and spirituality. In Proceedings of the SIGCHI Conference on Human Factors in Computing Systems (CHI '10). Association for Computing Machinery, New York, NY, USA, 2055–2064. *https://doi.org/10.1145/1753326.1753640* *Alternative Core Reading* • Sara Wolf, Paula Friedrich, and Jörn Hurtienne. **2024**. Still Not a Lot of Research? Re-Examining HCI Research on Religion and Spirituality. In Extended Abstracts of the 2024 CHI Conference on Human Factors in Computing Systems (CHI EA '24). Association for Computing Machinery, New York, NY, USA, Article 302, 1–15. *https://doi.org/10.1145/3613905.3651058* *Core Reading* • Christopher Alexander. **2002 (republished 2020).** "*The Nature of Order: An Essay on the Art of Building and The Nature of the Universe: The Process of Creating Life.*" The Center for Environmental Structure (January 30, 2020), Berkeley CA USA.	Photo-ethnographic Treasure Hunt

Schedule, Week 6

Week	Themes	Readings or Prompt	Project Form
6	Sustainable Interaction Design, (SID, SHCI)	*Core Reading* • Elinor Ostrom. **2010 (republished 2017).** "Polycentric systems for coping with collective action and global environmental change." In *Global justice*, pp. 423-430. Routledge, 2017. *Recommended Additional References* • Nicola Besana, Peter Gall Krogh, Marianne Graves Petersen, and Davide Spallazzo. **2024**. "Expanding the Concept of Sustainable Interaction Design: A Systematic Review" *Sustainability 16*, no. 17: 7486. *https://doi.org/10.3390/su16177486* • Eli Blevis. **2018**. Seeing What Is and What Can Be: On Sustainability, Respect for Work, and Design for Respect. In Proceedings of the 2018 CHI Conference on Human Factors in Computing Systems (CHI '18). Association for Computing Machinery, New York, NY, USA, Paper 370, 1–14. *https://doi.org/10.1145/3173574.3173944*	Triumphs and Tragedies of the Digital Interactive Commons

Schedule, Weeks 6-9

Week	Themes	Readings or Prompt	Project Form
7	AI & HCI/d	*Core Reading* • Feifei Liu and Kate Moran. **2023**. "AI-Powered Tools for UX Research: Issues and Limitations." Nielsen Norman Group. Accessed August 23, 2023. *https://www.nngroup.com/articles/ai-powered-tools-limitations/*. *Recommended Additional Reference* • Michael A. Cusumano. **2023**. Generative AI as a New Innovation Platform. Communications of the ACM 66, 10 (October 2023), 18–21. *https://doi.org/10.1145/3615859* • Yoshua Bengio, Yann Lecun, and Geoffrey Hinton. **2021**. Deep learning for AI. Commun. ACM 64, 7 (July 2021), 58–65. *https://doi.org/10.1145/3448250* also *https://www.youtube.com/watch?v=at0OXoUmEj4*	Wait, Wait, Don't Tell me
8	Pictorials, CHI(Art), Collections, Curations	*Core Reading* • Paulina Yurman. **2021**. "Fluid Speculations: Drawing Artefacts in Watercolour as Experimentation in Research Through Design." In *Creativity and Cognition*, pp. 1-13. 2021. *Core Reading* • Aditi Ranjan, and Mundon Pandan Ranjan. **2007**. *Handmade in India*. *https://design-for-india.blogspot.com/2007/08/handmade-in-india-handbook-of-crafts-of.html* accessed 08.26.2024	Sketching, Collections, and Curation
9	Non-Linear Design Thinking	*Core Reading* • Bart de Langhe, Stefano Puntoni, and Richard Larrick. **2017**. "Linear Thinking in a Nonlinear World." *Harvard Business Review*, May 1, 2017. *https://hbr.org/2017/05/linear-thinking-in-a-nonlinear-world*. *Core Reading* • Shunying An Blevis and Eli Blevis. **2022**. Nonlinear design thinking: the limitations of awareness in the search for climate care. interactions 29, 1 (January - February 2022), 84–88. *https://doi.org/10.1145/3505632*	NLDT Frame

Schedule, Week 10

Week	Themes	Readings or Prompt	Project Form
10	Cognition, Breakdown, The Novacene	*Core Reading* • Terry Winograd, and Fernando F. Flores. **1986**. *Understanding Computers and Cognition: A New Foundation for Design.* Ablex Publishing Corporation, Norwood, NJ. Chapter 3, Understanding and Being. Pages 27-37. *Recommended Additional References* • Martin Heidegger. **1977**. *The Question Concerning Technology and Other Essays*. Translated and with and Introduction by William Lovitt. Harper Torchbooks. Pages 3-35. • Meehan Crist. **2021**. Our Cyborg Progeny. Review of *Novacene: The Coming Age of Hyperintelligence*, by James Lovelock. *London Review of Books*, January 7, 2021. *https://www.lrb.co.uk/the-paper/v43/n01/meehan-crist/our-cyborg-progeny*. • James Lovelock. **2019**. *Novacene: The coming age of hyperintelligence*. MIT Press. • How to Save Humankind (According to James Lovelock), 2019. *https://www.youtube.com/watch?v=HuGj5n_vYz4*. • "What's the Future of Interaction Design?" — Tim Brown, 2021. *https://www.youtube.com/watch?v=HJJFp475M3c*.	Three Predictions

Schedule, Weeks 11-16

Week	Theme	Readings or Prompt	Project Form
11	Self-Reliance	• Prompt: If you were designing this syllabus, which three readings would you include?	Inverted Seminar
12	Accessibility, Aging	*Core Reading* • Alyson Yin, Riya Sogani, Bruna Oewel, Karen Phan, Jaime Shin Young Park, Mia Ashley Yeo, Lindsay Ann Yazzolino, Karen Arcos, Ali Abdolrahmani, Emily Blank, Michael Dean Gilbert, and Stacy M. Branham. **2024**. "Malicious" Pictorials: How Alt Text Matters to Screen Reader Users' Experience of Image-Dense Media. In Proceedings of the 2024 ACM Designing Interactive Systems Conference (DIS '24). Association for Computing Machinery, New York, NY, USA, 1262–1274. *https://doi.org/10.1145/3643834.3660747* *Recommended Additional Reference* • Amanda Lazar, Mark Diaz, Robin Brewer, Chelsea Kim, and Anne Marie Piper. **2017**. Going Gray, Failure to Hire, and the Ick Factor: Analyzing How Older Bloggers Talk about Ageism. In Proceedings of the 2017 ACM Conference on Computer Supported Cooperative Work and Social Computing (CSCW '17). Association for Computing Machinery, New York, NY, USA, 655–668. https://doi.org/10.1145/2998181.299827	Alt-Tags
13	Science and Design	*Core Reading* • Nigel Cross. **2001**. Designerly ways of knowing: design discipline versus design science. Design Issues, 17(3) pp. 49–55. *Recommended Additional Reference* • Susanne Bødker. **2015**. Third-wave HCI, 10 years later---participation and sharing. *interactions* 22, 5 (September-October 2015), 24–31. *https://doi.org/10.1145/2804405*	Diagrams
14	Reflection	Optional Class	
15	Reflection	Optional Class	
16	Summative Work	Optional Class	Best-Of Portfolio, Reflection

Example Project Instructions I

(Instructions for other projects will be presented in class and recorded on Canvas).

Human-Centered vs Humanity-Centered Design

Readings

- Norman, Donald A. *Design for a better world: Meaningful, sustainable, humanity centered*. MIT Press, **2023**.

Deliverables

- ***Humanity-Centered Transformations***
  Provide three tiles (as described in the Deliverables section of this syllabus) that are examples of Humanity-Centered Transformations that follow at least one of the five basic principles Don Norman identifies in the reading.

  (e.g., find an example of a design space wherein the problem *as stated* is the symptom and not the cause and state what the actual core, root issues actually are).

  From Norman, 2023:193-194
  Transforming Human-Centered into Humanity-Centered Design: Five Basic Principles
  1. *Solve the core, root issues, not just the problem as presented (which is often the symptom, not the cause).*
  2. *Focus on the entire ecosystem of people, all living things, and the physical environment.*
  3. *Take a long-term, systems point of view, realizing that most complications result from the interdependencies of the multiple parts and that many of the most damaging impacts on society and the ecosystem reveal themselves only years or even decades later.*
  4. *Continually test and refine the proposed designs to ensure they truly meet the concerns of the people and ecosystem for whom they are intended.*
  5. *Design with the community and as much as possible support designs by the community. Professional designers should serve as enablers, facilitators, and resources, aiding community members to meet their concerns.*

Example Project Instructions II

Triumphs and Tragedies of the Digital Interactive Commons, Inspired by Ostrom's account of "Polycentric systems for coping with collective action and global environmental change."

Reading
Elinor Ostrom. 2010 (republished 2017). "Polycentric systems for coping with collective action and global environmental change." In Global justice, pp. 423-430. Routledge, 2017.

Ostrom's article

(i) defines the conventional theory of collective action,
(ii) defines polycentric systems (of governance),
(iii) asks if actions taken by multiple units cumulate to reduce the threat of climate change, and
(iv) defines leakage, inconsistent policies, inadequate certification, gaming the system, and free riding.

Deliverable
Create 3 tiles/slides (and optionally a prepended title tile/slide and a post-pended references tile/slide).

Your slides should identify:

One aspect of the digital interactivity that improves the common pool resources of the world (as a matter of sustainability broadly defined),
One aspect of the digital interactivity that degrades the common pool resources of the world (as a matter of sustainability broadly defined),
And one aspect of the digital interactivity that is in-between in its effects on the common pool resources of the world (as a matter of sustainability broadly defined).

One way to begin is to make a list for yourself of common pool resources in the digital world to which Ostrom's notions may be applied. Then consider how Ostrom's notions may be applied. Of course, the internet is inherently polycentric or distributed by design. That is a given. Notwithstanding, there are many details about sustainability and interactive technologies that may be discussed according to Ostrom's framing.

For example, consider that **information** is a common pool resource. You may argue that the distributed nature of the internet permits **cumulative** gains in sharing information openly and widely. You may argue that this same distributed nature amplifies misinformation, as a matter of **leakage**. You may argue that search algorithms allow access to information in a way that was not possible before the internet, while at the same time search algorithms may promote the bias of the search engine provider as a matter of **gaming the system**.

As another example, consider the **energy use** involved in meetings to be a common pool resource. You may argue that improvements in telepresence interactive technologies (e.g., Zoom) improve the world by eliminating some of the need for physical world travel which may **cumulate** in a net benefit to the environment. You may argue that the increased use of telepresence interactive technologies isolates people one from another leading to loneliness and other forms of **leakage**. You may argue that the hybrid use of telepresence interactive technologies increases opportunities for participation by allowing folks to attend a meeting that they otherwise would be unable to attend for good reasons, or that it increases opportunities for folks to pretend to participate when they are actually not doing so as a matter of **gaming the system** or **free riding**.

Classroom Exercise (2017). Students in a graduate interaction design class pose after responding to prompts to diagram concepts from an article by Elinor Ostrom, namely (i) the conventional theory of collective action, (ii) polycentric systems (of governance), (iii) can actions taken by multiple units cumulate to reduce the threat of climate change, and (iv) define: leakage, inconsistent policies, inadequate certification, gaming the system, and free riding. Reflection on: *Eriksson & Pargman: On the inherent contradictions of teaching sustainability at a technical university,* as well as several other chapters that deal with public policy and interaction design. See: Elinor Ostrom. 2010. Polycentric systems for coping with collective action and global environmental change. *Global Environmental Change, 20*(4), pp.550-557.

Above: Eli Blevis. 2018. Photo Essay 4: Classroom Exercise. In Mike Hazas and Lisa Nathan (Eds.) *Digital Technology and Sustainability: Engaging the Paradox.* London and New York: Routledge, p. 125.

Additional Reference Texts

As I state at the outset, HCI and Design are dynamic areas of scholarship and practice. That is, there is not a strict canon of classic literature that one can read, once and for all. It is better to read current sources and to keep reading throughout your career. I suggest allotting 2 hours a day to reading from the sources described below and others in addition to the curricular content.

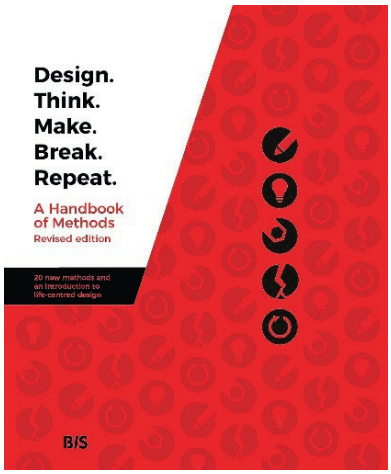
Some Reference Texts in addition to the readings listed in the Schedule

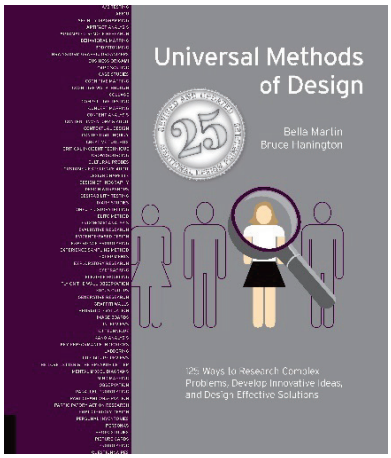
You may be using some of these sources in your other classes.

Eli Blevis. **2021**. Three Key Competencies and Other Frameworks for HCI and Design Education. IU ScholarWorks. *http://hdl.handle.net/2022/26048*

Bella Martin and Bruce Hannington. **2012**. *Universal Methods of Design.* Beverly, MA: Rockport.

Martin Tomitsch, Cara Wrigley, Madeleine Borthwick, Naseem Ahmadpour, Jessica Frawley, A. Baki Kocaballi, Claudia Núnez-Pacheco, and Karla Straker. **2018**. *Design. think. make. break. repeat. A handbook of methods*. Bis Publishers.





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Bardzell, S. (2010). Feminist HCI: taking stock and outlining an agenda for design. *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems*, 1301–1310. https://doi.org/10.1145/1753326.1753521

Beck, J., & Stolterman, E. (2017). Reviewing the Big Questions Literature; or, Should HCI Have Big Questions? *Proceedings of the 2017 Conference on Designing Interactive Systems*, 969–981.

Card, S. K., Moran, T. P., & Newell, A. (1983). *The psychology of human-computer interaction*. Lawrence Erlbaum Associates.

Costanza-Chock, S. (2020). *Design Justice: Community-Led Practices to Build the Worlds We Need*. MIT Press. https://play.google.com/store/books/details?id=h4LPDwAAQBAJ

Desjardins, A., Wakkary, R., & Odom, W. (2015). Investigating Genres and Perspectives in HCI Research on the Home. *Proceedings of the 33rd Annual ACM Conference on Human Factors in Computing Systems*, 3073–3082. https://doi.org/10.1145/2702123.2702540

DiSalvo, C., Lukens, J., Lodato, T., Jenkins, T., & Kim, T. (2014). Making public things: how HCI design can express matters of concern. *Proceedings of the 32nd Annual ACM Conference on Human Factors in Computing Systems - CHI '14*, 2397–2406. https://doi.org/10.1145/2556288.2557359

Dombrowski, L., Harmon, E., & Fox, S. (2016). Social Justice-Oriented Interaction Design: Outlining Key Design Strategies and Commitments. *Proceedings of the 2016 ACM Conference on Designing Interactive Systems*, 656–671. https://doi.org/10.1145/2901790.2901861

Dourish, P. (2006). Implications for design. *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems - CHI '06*, 541–550. https://doi.org/10.1145/1124772.1124855

Farnham, S. D., & Churchill, E. F. (2011). Faceted identity, faceted lives: social and technical issues with being yourself online. *Proceedings of the ACM 2011 Conference on Computer Supported Cooperative Work - CSCW '11*, 359–368. https://doi.org/10.1145/1958824.1958880

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[1] list reproduced as received.

introduction to the special issue on more-than-human design and HCI. *Human–Computer Interaction*, 1–16. https://doi.org/10.1080/07370024.2024.2353357

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Greenberg, S., & Buxton, B. (2008). Usability evaluation considered harmful (some of the time). *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems*, 111–120. https://doi.org/10.1145/1357054.1357074

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Homewood, S., Hedemyr, M., Fagerberg Ranten, M., & Kozel, S. (2021). Tracing Conceptions of the Body in HCI: From User to More-Than-Human. *Proceedings of the 2021 CHI Conference on Human Factors in Computing Systems*, 1–12. https://doi.org/10.1145/3411764.3445656

Kannabiran, G., Bardzell, J., & Bardzell, S. (2011). How HCI talks about sexuality: discursive strategies, blind spots, and opportunities for future research. *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems*, 695–704. https://doi.org/10.1145/1978942.1979043

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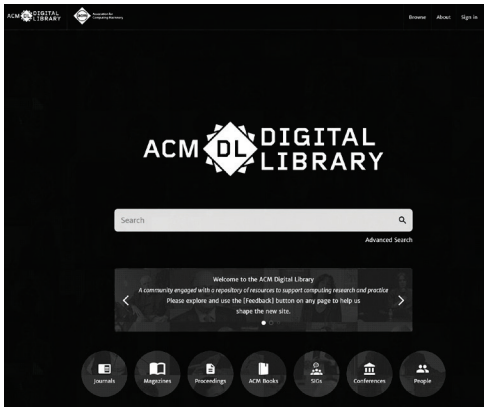
Where to Find Even More Sources

Places to Look First

Check these first:

https://dl.acm.org/



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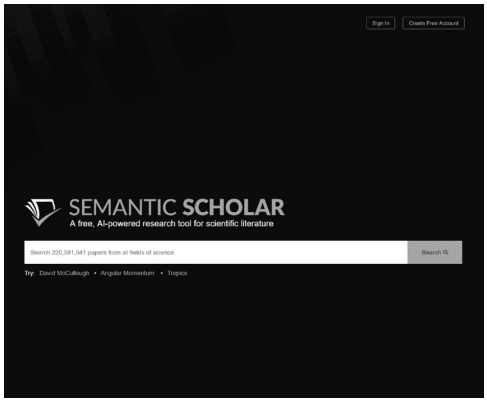
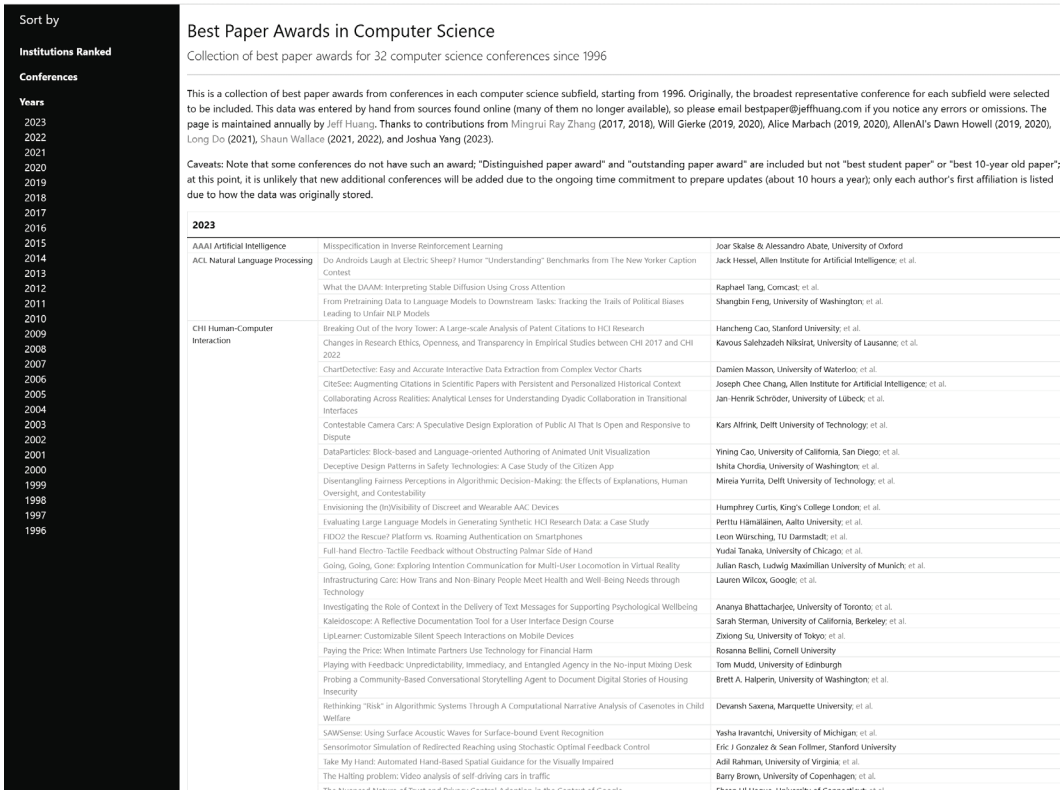


Places to Browse: ACM Best Papers List

One strategy is to be sure to read the best papers listed here:

Jeff Huang's List of Best Papers



Sort by

Institutions Ranked

Conferences

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Best Paper Awards in Computer Science

Collection of best paper awards for 32 computer science conferences since 1996

This is a collection of best paper awards from conferences in each computer science subfield, starting from 1996. Originally, the broadest representative conference for each subfield were selected to be included. This data was entered by hand from sources found online (many of them no longer available), so please email bestpaper@jeffhuang.com if you notice any errors or omissions. The page is maintained annually by Jeff Huang. Thanks to contributions from Mingrui Ray Zhang (2017, 2018), Will Gierke (2019, 2020), Alice Marbach (2019, 2020), AllenAI's Dawn Howell (2019, 2020), Long Do (2021), Shaun Wallace (2021, 2022), and Joshua Yang (2023).

Caveats: Note that some conferences do not have such an award: "Distinguished paper award" and "outstanding paper award" are included but not "best student paper" or "best 10-year old paper"; at this point, it is unlikely that new additional conferences will be added due to the ongoing time commitment to prepare updates (about 10 hours a year); only each author's first affiliation is listed due to how the data was originally stored.

2023

AAAI Artificial Intelligence	Misspecification in Inverse Reinforcement Learning	Joar Skalse & Alessandro Abate, University of Oxford
ACL Natural Language Processing	Do Androids Laugh at Electric Sheep? Humor "Understanding" Benchmarks from The New Yorker Caption Contest	Jack Hessel, Allen Institute for Artificial Intelligence; et al.
	What the DAAM: Interpreting Stable Diffusion Using Cross Attention	Raphael Tang, Comcast; et al.
	From Pretraining Data to Language Models to Downstream Tasks: Tracking the Trails of Political Biases Leading to Unfair NLP Models	Shangbin Feng, University of Washington; et al.
CHI Human-Computer Interaction	Breaking Out of the Ivory Tower: A Large-scale Analysis of Patent Citations to HCI Research	Hancheng Cao, Stanford University; et al.
	Changes in Research Ethics, Openness, and Transparency in Empirical Studies between CHI 2017 and CHI 2022	Kavous Salehzadeh Niksirat, University of Lausanne; et al.
	ChartDetective: Easy and Accurate Interactive Data Extraction from Complex Vector Charts	Damien Masson, University of Waterloo; et al.
	CiteSee: Augmenting Citations in Scientific Papers with Persistent and Personalized Historical Context	Joseph Chee Chang, Allen Institute for Artificial Intelligence; et al.
	Collaborating Across Realities: Analytical Lenses for Understanding Dyadic Collaboration in Transitional Interfaces	Jan-Henrik Schröder, University of Lübeck; et al.
	Contestable Camera Cars: A Speculative Design Exploration of Public AI That Is Open and Responsive to Dispute	Kars Alfrink, Delft University of Technology; et al.
	DataParticles: Block-based and Language-oriented Authoring of Animated Unit Visualization	Yining Cao, University of California, San Diego; et al.
	Deceptive Design Patterns in Safety Technologies: A Case Study of the Citizen App	Ishita Chordia, University of Washington; et al.
	Disentangling Fairness Perceptions in Algorithmic Decision-Making: the Effects of Explanations, Human Oversight, and Contestability	Mireia Yurrita, Delft University of Technology; et al.
	Envisioning the (In)Visibility of Discreet and Wearable AAC Devices	Humphrey Curtis, King's College London; et al.
	Evaluating Large Language Models in Generating Synthetic HCI Research Data: a Case Study	Perttu Hämäläinen, Aalto University; et al.
	FIDO2 the Rescue? Platform vs. Roaming Authentication on Smartphones	Leon Würsching, TU Darmstadt; et al.
	Full-hand Electro-Tactile Feedback without Obstructing Palmar Side of Hand	Yudai Tanaka, University of Chicago; et al.
	Going, Going, Gone: Exploring Intention Communication for Multi-User Locomotion in Virtual Reality	Julian Rasch, Ludwig Maximilian University of Munich; et al.
	Infrastructuring Care: How Trans and Non-Binary People Meet Health and Well-Being Needs through Technology	Lauren Wilcox, Google; et al.
	Investigating the Role of Context in the Delivery of Text Messages for Supporting Psychological Wellbeing	Ananya Bhattacharjee, University of Toronto; et al.
	Kaleidoscope: A Reflective Documentation Tool for a User Interface Design Course	Sarah Sterman, University of California, Berkeley; et al.
	LipLearner: Customizable Silent Speech Interactions on Mobile Devices	Zixiong Su, University of Tokyo; et al.
	Paying the Price: When Intimate Partners Use Technology for Financial Harm	Rosanna Bellini, Cornell University
	Playing with Feedback: Unpredictability, Immediacy, and Entangled Agency in the No-Input Mixing Desk	Tom Mudd, University of Edinburgh
	Probing a Community-Based Conversational Storytelling Agent to Document Digital Stories of Housing Insecurity	Brett A. Halperin, University of Washington; et al.
	Rethinking "Risk" in Algorithmic Systems Through A Computational Narrative Analysis of Casenotes in Child Welfare	Devansh Saxena, Marquette University; et al.
	SAWSense: Using Surface Acoustic Waves for Surface-bound Event Recognition	Yasha Iravantchi, University of Michigan; et al.
	Sensorimotor Simulation of Redirected Reaching using Stochastic Optimal Feedback Control	Eric J Gonzalez & Sean Follmer, Stanford University
	Take My Hand: Automated Hand-Based Spatial Guidance for the Visually Impaired	Adil Rahman, University of Virginia; et al.
	The Halting problem: Video analysis of self-driving cars in traffic	Barry Brown, University of Copenhagen; et al.

ACM Exemplary Papers

Each of the ACM conferences lists exemplary papers. I recommend looking at these exemplary papers which are constantly being updated in order to be sure your reading about HCI is up to date. ACM SIGCHI conferences are listed here:

https://sigchi.org/conferences/upcoming-conferences/

ACM CHI Exemplary Papers by Thematic Areas

ACM CHI conference papers are grouped by thematic areas called sub-committees that represent a broad view of HCI. Check each of the links to see the exemplary areas for each subcommittee.

- *Accessibility and Aging*
- *Blending Interaction: Engineering Interactive Systems & Tools*
- *Developing Novel Devices: Hardware, Materials, and Fabrication*
- *Computational Interaction*
- *Critical Computing, Sustainability, and Social Justice*
- *Design*
- *Games and Play*
- *Health*
- *Interacting with Devices: Interaction Techniques & Modalities*
- *Interaction Beyond the Individual*
- *Learning, Education, and Families*
- *Privacy and Security*
- *Specific Applications Areas*
- *Understanding People*
    - *Understanding People — Statistical and Quantitative Methods*
    - *Understanding People — Qualitative Methods*
    - *Understanding People — Mixed and Alternative Methods*
- *User Experience and Usability*
- *Visualization*

Critical Computing, Sustainability, and Social Justice

This subcommittee welcomes HCI research connected to themes of social justice, global sustainability, critical-reflective research practice, artful and aesthetic experiences, and critical computing—all in pursuit of meaningful alternatives to the status quo. We encourage papers that explore how computing and computing research contributes to fair and just relations between individuals, social groups, and whole societies, locally and globally—all in the pursuit of fulfillment and flourishing. Submissions typically feature any combination of one or more of the following:

- Antiracist, decolonial, feminist, and queer critique
- Commitments to equity, sustainability, survivance, and social justice
- Communication of perspectives from marginalized and unheard persons, groups, nations
- Attention to structural processes of power and control that produce and reproduce racialized, gendered, sexist, ableist, hetero/mononormative and colonial/postcolonial forms of violence, vulnerabilities, and exclusions
- Challenges to and/or new analyses of received knowledge and paradigms including critical and progressive accounts of alternative epistemologies, decolonial practices and theories, indigenous knowledges, and Majority Worlds perspectives
- Environmental justice, inter-generational justice, more than human worlds, technology and its implications in the climate crisis
- Explications of values and needs from diverse users and their communities
- Low-energy or zero carbon technologies and ways of life
- The pursuit of artful experiences and aesthetic ways of being and doing
- A robust and open politics
- The prominent use of philosophy and other theory
- The fostering of empathy, imagination, appreciation, and perception as community values

The subcommittee is epistemologically pluralistic, welcoming of a range of perspectives, approaches, and contributions that might take interpretivist, empirical, activist, political, ethical, critical, and/or pragmatic approaches to both societal challenges and how HCI research frames itself in relation to them. As a part of that commitment, we also champion diverse forms of scholarly expression in the CHI community, such as critical essays, research through design, practice-based research, design fictions, and commentaries.

Subcommittee Chairs

- Katta Spiel (Vienna University of Technology, AT)
- Sarah Fox (Carnegie Mellon University, USA)

Associate Chairs

- Michael Muller, IBM Research, USA
- Clara Crivellaro, Newcastle University, UK
- Shion Guha, University of Toronto, Canada
- Samar Sabie, University of Toronto Mississauga, USA
- Saiph Savage, Northeastern University and UNAM, USA
- Katie Seaborn, Tokyo Institute of Technology, Japan
- Ranjit Singh, AI on the Ground, Data & Society Research Institute, USA
- Reem Talhouk, Northumbria University, UK
- Marianela Ciolfi Felice, KTH Royal Institute of Technology, Sweden
- Jean Hardy, Michigan State University, USA
- Liesbeth Huybrechts, Hasselt University, Belgium
- Lilly Irani, University of California, San Diego, USA
- Naveena Karusala, Georgia Tech, USA
- Vera Khovanskaya, University of California, San Diego, USA
- Goda Klumbytė, University of Kassel, Germany
- Bran Knowles, Lancaster University, UK
- Michael Madaio, Google Research, USA
- Fabio Morreale, University of Auckland, New Zealand
- Matt Ratto, University of Toronto, Canada
- Noopur Raval, UC Irvine, USA
- Alexandra To, Northeastern University, USA
- Kentaro Toyama, University of Michigan, USA
- Ding Wang, Google Research India, India
- Marisol Wong-Villacres, Escuela Superior Politécnica del Litoral, Ecuador
- Cristina Zaga, University of Twente, Netherlands
- Benett Axtell, Simon Fraser University, Canada
- Priyank Chandra, University of Toronto, Canada
- Catherine D'Ignazio, Massachusetts Institute of Technology, USA
- Michael Ann DeVito, Northeastern University, USA
- Lara Houston, Anglia Ruskin University,
- Janet Vertesi, Princeton University, USA
- Rua Mae Williams, Purdue University, USA
- Konstantin Aal, Universität Siegen, Germany
- Brett Halperin, University of Washington, US
- Elizabeth Anne Watkins, Intel Labs, US
- Glenda Hannibal, University of Salzburg, Austria
- Janis Meissner, TU Wien, Austria
- Giulia Barbareschi, Keio, Japan
- Hendrik Heuer, Center for Advanced Internet Studies (CAIS) & University of Wuppertal, Germany
- Adrian Friday, Lancaster, UK
- Willie Agnew, Carnegie Mellon University, USA
- Melanie Feinberg, University of North Carolina, Chapel Hill, USA
- Hee Rin Lee, Michigan State University, USA
- Alex Lu, Rutgers, USA
- Yuchen Chen, CUNY Baruch, USA
- Pedro Ferreira, IT University of Copenhagen, Denmark
- Yuya Shibuya, Tokyo University, Japan
- Ozge Subaşı, Koç University, Turkey

Contact: critical@chi2025.acm.org

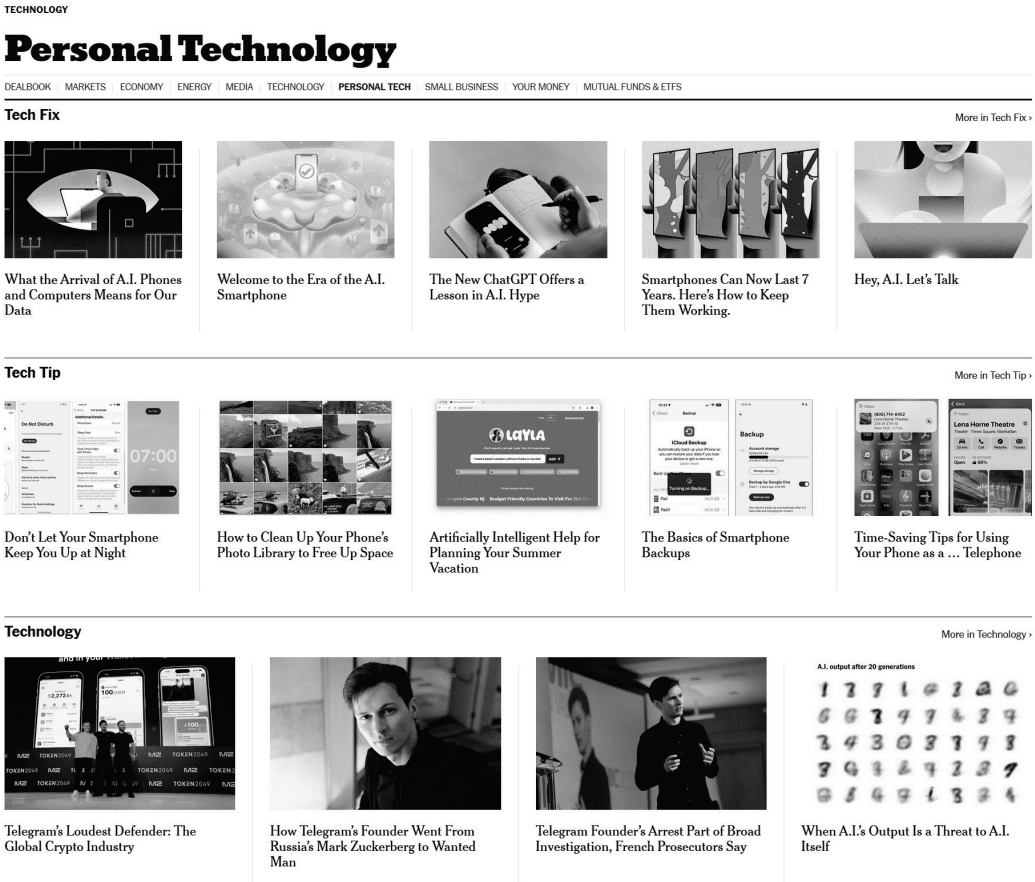
Example Papers

- Ali Alkhatib. 2021. To Live in Their Utopia: Why Algorithmic Systems Create Absurd Outcomes. In Proceedings of the 2021 CHI Conference on Human Factors in Computing Systems (CHI '21), 1–9. https://doi.org/10.1145/3411764.3445740
- Madeline Balaam, Rob Comber, Rachel E. Clarke, Charles Windlin, Anna Ståhl, Kristina Höök, and Geraldine Fitzpatrick. 2019. Emotion Work in Experience-Centered Design. In Proceedings of the 2019 CHI Conference on Human Factors in Computing Systems (CHI '19), 602:1-602:12. https://doi.org/10.1145/3290605.3300832
- Shaowen Bardzell. 2010. Feminist HCI: taking stock and outlining an agenda for design. 1301. https://doi.org/10.1145/1753326.1753521
- Eli Blevis. 2018. Seeing What Is and What Can Be: On Sustainability, Respect for Work, and Design for Respect. In Proceedings of the 2018 CHI Conference on Human Factors in Computing Systems (CHI '18), 1–14. https://doi.org/10.1145/3173574.3173944
- Zaidat Ibrahim, Pallavi Panchpor, Novia Nurain, and James Clawson. 2024. "Islamically, I am not on my period": A Study of Menstrual Tracking in Muslim Women in the US. In Proceedings of the CHI Conference on Human Factors in Computing Systems (CHI '24). Association for Computing Machinery, New York, NY, USA, Article 686, 1–16. https://doi.org/10.1145/3613904.3642006
- Christina Harrington and Tawanna R Dillahunt. 2021. Eliciting Tech Futures Among Black Young Adults: A Case Study of Remote Speculative Co-Design. In Proceedings of the 2021 CHI Conference on Human Factors in Computing Systems (CHI '21), 1–15. https://doi.org/10.1145/3411764.3445723
- Maria Håkansson and Phoebe Sengers. 2013. Beyond being green: simple living families and ICT. In Proceedings of the SIGCHI Conference on Human Factors in Computing Systems (CHI '13), 2725–2734. https://doi.org/10.1145/2470654.2481378
- Nusrat Jahan Mim. 2021. Gospels of Modernity: Digital Cattle Markets, Urban Religiosity, and Secular Computing in the Global South. In Proceedings of the 2021 CHI Conference on Human Factors in Computing Systems (CHI '21), 1–17. https://doi.org/10.1145/3411764.3445259
- Silvia Lindtner and Seyram Avle. 2017. Tinkering with Governance: Technopolitics and the Economization of Citizenship. Proceedings of the ACM on Human-Computer Interaction 1, CSCW: 70:1-70:18. https://doi.org/10.1145/3134705
- Elizabeth Kaziunas, Michael S. Klinkman, and Mark S. Ackerman. 2019. Precarious Interventions: Designing for Ecologies of Care. Proceedings of the ACM on Human-Computer Interaction 3, CSCW: 113:1-113:27. https://doi.org/10.1145/3359215
- Ann Light, Alison Powell, and Irina Shklovski. 2017. Design for Existential Crisis in the Anthropocene Age. In Proceedings of the 8th International Conference on Communities and Technologies (C&T '17), 270–279. https://doi.org/10.1145/3083671.3083688
- Deepika Yadav, Kasper Karlgren, Riyaj Shaikh, Karey Helms, Donald Mcmillan, Barry Brown, and Airi Lampinen. 2024. Bodywork at Work: Attending to Bodily Needs in Gig, Shift, and Knowledge Work. In Proceedings of the CHI Conference on Human Factors in Computing Systems (CHI '24). Association for Computing Machinery, New York, NY, USA, Article 383, 1–13. https://doi.org/10.1145/3613904.3642416
- Samar Sabie, Robert Soden, Steven Jackson, and Tapan Parikh. 2023. Unmaking as Emancipation: Lessons and Reflections from Luddism. In Proceedings of the 2023 CHI Conference on Human Factors in Computing Systems (CHI '23). Association for Computing Machinery, New York, NY, USA, Article 604, 1–15. https://doi.org/10.1145/3544548.3581412
- Cynthia L. Bennett and Daniela K. Rosner. 2019. The Promise of Empathy: Design, Disability, and Knowing the "Other". In Proceedings of the 2019 CHI Conference on Human Factors in Computing Systems (CHI '19). Association for Computing Machinery, New York, NY, USA, Paper 298, 1–13. https://doi.org/10.1145/3290605.3300528
- Oliver L. Haimson, Daniel Delmonaco, Peipei Nie, and Andrea Wegner. 2021. Disproportionate Removals and Differing Content Moderation Experiences for Conservative, Transgender, and Black Social Media Users: Marginalization and Moderation Gray Areas. Proc. ACM Hum.-Comput. Interact. 5, CSCW2, Article 466 (October 2021), 35 pages. https://doi.org/10.1145/3479610
- Hee Rin Lee. 2024. Contrasting Perspectives of Workers: Exploring Labor Relations in Workplace Automation and Potential Interventions. In Proceedings of the CHI Conference on Human Factors in Computing Systems (CHI '24). Association for Computing Machinery, New York, NY, USA, Article 672, 1–17. https://doi.org/10.1145/3613904.3642907

Technology in Practice

In some ways, keeping up with the technology and other sections of major high integrity new sources is the best way to be current. It is important to triangulate these readings—that is, to read from a great variety of sources in order to see what is important to different constituencies. Notwithstanding, reliable and high integrity sources are key. Here is a list:

* *Technology Section of The Economist*
* *Technology Section of the New York Times*
* *Technology Section of the Guardian*
* *Technology Section of Reuters*
* *Technology Section of the Atlantic*
* *Technology Section of NPR*
* *Technology Section of the Wall Street Journal*
* *Technology Section of the Washington Post*
* *Technology Section of the BBC*



Above: Personal Technology landing page from the New York Times accessed 08.27.2024.

Pictorials

At the intersection of HCI and Design are pictorials. These are a good source for design inspirations that bridge between scholarship and practice:

* *C&C 2017 to Current*
* *DIS 2014 to Current*
* *TEI 2020 to Current*

Above from: Eli **Blevis**. 2016. The Visual Thinking Gallery: A Five-Year Retrospective. In *Proceedings of the 2016 ACM Conference on Designing Interactive Systems* (DIS '16). ACM, New York, NY, USA, 1096-1110.

English

If English is not your native language or you are otherwise shy about speaking in class, please do not worry. You will not be penalized in any way for making contributions to the class in less than perfect English or for taking time to compose your answers. You are welcome to say what you want to say in your language of choice first and then ask for help from others to translate to English. I will frequently emphasize to the class the need for all of us to be supportive of each other when it comes to contributing to the discussions. There is no need to feel rushed when responding to questions in class—an important part of the class is the construction of a feeling of community with the faculty and your peers.

Important Note about Third Party Materials

In this class, your use of third-party materials must conform to ACM policy:

> Third party material Fair use
> *https://www.acm.org/publications/authors/guidance-for-authors-on-fair-use*
>
> Sample permission request letter
> *https://www.acm.org/binaries/content/assets/publications/permissionsformtemplate.odt*

The reason for this policy is to underscore the goal of producing professional quality, publishable work, as you will be expected to produce in real-world practice. In your professional career, you will be expected to adhere to copyright laws. It is also a matter of ethics and respect for the work of others.

Moreover, since the program includes an emphasis visual thinking, most of your evidence of such thinking must be your own original work.

Generative AI

Use of generative-AI tools is permitted just in the case that each use is fully attributed and correctly referenced. To do otherwise is considered plagiarism and may result in a failing grade for the entire class. Participants assume all responsibility for fair use apropos of copyright issues with the use of generative AI.

Reference Formats

You must use ACM referencing formats: *https://www.acm.org/publications/authors/reference-formatting*

Accommodations & Feedback

We welcome your feedback. We will do our best to accommodate specific requests if they are reasonable and have merit.

Academic Misconduct

The class is morally and procedurally bound by IU's policies on academic misconduct, the details of which you can read about at the following website: *www.indiana.edu/~code/code/index.shtml*

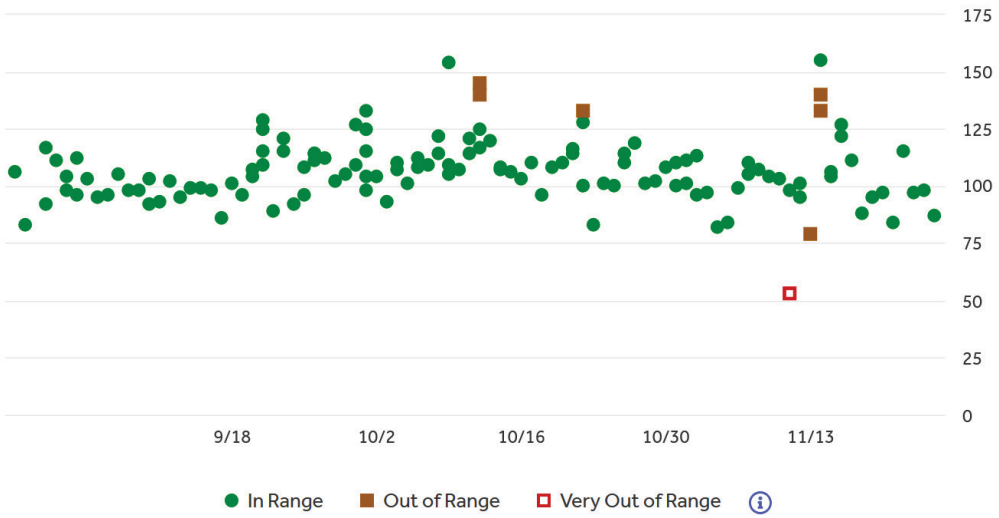
Religious Observance

In accordance with the Office of the Dean of Faculties, any student who wishes to receive an excused absence from class must submit a request form available from the Dean of Faculties for each day to be absent. This form must be presented to the course professor by the end of the second week of the semester. A separate form must be submitted for each day. The form must be signed by the instructor, with a copy retained by instructor, and the original returned to the student. Information about the policy on religious observance can be found here: *www.indiana.edu/~vpfaa/holidays.shtml*

Important Notice

As your instructor, one of my responsibilities is to help create a safe learning environment on our campus. Title IX and our own Sexual Misconduct policy prohibit sexual misconduct. If you have experienced sexual misconduct, or know someone who has, the University can help. I encourage you to visit http://stopsexualviolence.iu.edu/ to learn more. If you are seeking help and would like to speak to someone confidentially, you can make an appointment with a Mental Health Counselor on campus. Contact information available at *http://stopsexualviolence.iu.edu/employee/confidential.html*

It is also important that you know that federal regulations and University policy require me to promptly convey any information about potential sexual misconduct known to me to our Deputy Title IX Coordinator or IU's Title IX Coordinator. In that event, they will work with a small number of others on campus to ensure that appropriate measures are taken, and resources are made available to the student who may have been harmed. Protecting a student's privacy is of utmost concern, and all involved will only share information with those that need to know to ensure the University can respond and assist.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