

Curriculum Vitae

Notarization. I, **Chu Sern Joel Chan**, have read the following and certify that this *curriculum vitae* is a current and accurate statement of my professional record.

Signature:  Date: September 12, 2025

I. Personal Information

I.A. 115753648, Chan, Chu Sern Joel

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University of Maryland
College Park, MD 20742-4345
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I.B. Academic Appointments at UMD

Jan 2018–Present	Assistant Professor College of Information University of Maryland (UMD; College Park, MD)
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I.C. Administrative Appointments at UMD

I.D. Other Academic Employment

Jun 2014–Dec 2017	Postdoctoral Research Fellow Human-Computer Interaction Institute Carnegie Mellon University (CMU; Pittsburgh, PA) (<i>Mentors: Dr. Aniket Kittur, Dr. Steven P. Dow</i>)
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I.E. Educational Background

Aug 2009–Jul 2014	University of Pittsburgh (Pittsburgh, PA) PhD, Cognitive Psychology Dissertation: <i>Understanding the impact of sources of inspiration in creative design: The role of conceptual distance.</i> (<i>Chair: Dr. Christian Schunn</i>)
Aug 2009–Aug 2012	University of Pittsburgh (Pittsburgh, PA) M.S., Cognitive Psychology

Thesis: *Re-examining the impact of self-generated distant analogies on creative ideation: Some insights from an in vivo study in engineering design.*

(Chair: Dr. Christian Schunn)

Aug 2005–May 2009

University of the Ozarks (Clarksville, AR)

B.Sc., Psychology, *Summa Cum Laude*

Thesis: *Visual reasoning about relations: An exploratory study of working memory constraints on the role of visual imagery in deductive reasoning about relations*

(Chair: Dr. Joel Hagaman)

I.F. Continuing Education

I.G. Professional Certifications, Licenses, and Memberships

Association for Computing Machinery (ACM)

2014–present

ACM Special Interest Group on Computer-Human Interaction (SIGCHI)

2014–present

International Society for the Study of Creativity and Innovation (ISSCI)

2023–present

II. Research, Scholarly, Creative and/or Professional Activities

*Note: In all references, my name is in **bold**. † denotes undergraduate/graduate student author(s) under my direct supervision (i.e., for whom I serve/ed as advisor or co-advisor or actively supervised in a specific project related to the publication). In my lab, my research with graduate students is typically closely co-constructed in an apprenticeship model, so authorship order is governed by the following conventions: to help foster ownership and further development of the ideas (even early on), graduate student who are intellectual co-leads on a project are offered the opportunity to be listed first and faculty advisor(s) last. In these cases, my name is in **bold and underlined**. Other students' names are listed in decreasing position by contribution whereas faculty advisors in increasing position.*

Publications with cross-disciplinary authors may deviate from these conventions; authors are listed either alphabetically or in decreasing position by contribution.

Additional special notation: [award]

II.A. Chapters

II.A.1. Books

- BC1 **Chan, J., & Paletz, S. B.** (2019). How science teams deal with uncertainty: Insights from the Mars Rover Project. In P. B. Paulus & B. A. Nijstad (Eds.), *Oxford Handbook of Group Creativity and Innovation*, Ch. 19, 319-333. Oxford University Press. <https://doi.org/10.1093/oxfordhb/9780190648077.013.19>

II.A.2. Collections

II.A.3. Encyclopedia

II.A.4. Series

II.A.5. Research Paper

II.A.6. Other

II.B. Refereed Journals

II.B.1. Refereed Journal Articles

- J17 Kamrah, E., Ghoreishi, S. F., Ding, Zijian†, **Chan, J.**, & Fuge, M. (2023). How diverse initial samples help and hurt Bayesian Optimizers. *Journal of Mechanical Design*, 145(11), Article 111703, 1-11.
<https://doi.org/10.1115/1.4063006>
- J16 Elsayed-Ali, S.†, Bonsignore, E., & **Chan, J.** (2023). Exploring challenges to inclusion in participatory design from the perspectives of global north practitioners. *Proceedings of the ACM on Human-Computer Interaction: CSCW*, 7, 1-25.
<https://doi.org/10.1145/3579606>
- J15 **Chan, J.**, Schunn, C. (2023). The importance of separating appropriateness into impact and feasibility for the psychology of creativity. *Creativity Research Journal*, 35(4), 629-644. <https://doi.org/10.1080/10400419.2023.2191919>
- J14 Kang, H. B., Qian, X.†, Hope, T., Shahaf, D., **Chan, J.**, & Kittur, A. (2022). Augmenting scientific creativity with an analogical search engine. *ACM Transactions on Computer-Human Interaction*, 29(6), 1-36.
<https://doi.org/10.1145/3530013>
- J13 Kittur, A., Yu, L., Hope, T., **Chan, J.**, Lifshitz-Assaf, H., Gilon, K., Ng, F., Kraut, R., & Shahaf, D. (2019). Scaling up analogical innovation with crowds and AI. *Proceedings of the National Academy of Sciences*, 116(6), 1870-1877.
<https://doi.org/10.1073/pnas.1807185116>

- J12 **Chan, J.**, Chang, J. C., Hope, T., Shahaf, D., & Kittur, A. (2018). SOLVENT: A mixed initiative system for finding analogies between research papers. *Proceedings of the ACM on Human-Computer Interaction: CSCW*, 2, Article 31, 1-21.
<https://doi.org/10.1145/3274300>
- J11 Goncher, A., **Chan, J.**, & Schunn, C. (2017). Measuring design innovation for project-based design assessment: considerations of robustness and efficiency. *Bitácora Urbano Territorial*, 27(4Esp), 19-30.
<https://doi.org/10.15446/bitacora.v27n4esp.68959>
- J10 Paletz, S., **Chan, J.**, & Schunn, C. (2017). Dynamics of micro-conflicts and uncertainty in successful and unsuccessful design teams. *Design Studies*, 50, 36-69.
<https://doi.org/10.1016/j.destud.2017.02.002>
- J9 **Chan, J.** & Nokes-Malach, T. J. (2016). Situative creativity: Larger physical spaces facilitate thinking of novel uses for everyday objects. *Journal of Problem Solving*, 9(1), Article 3, 29-45. <https://doi.org/10.7771/1932-6246.1184>
- J8 Paletz, S., **Chan, J.**, & Schunn, C. (2016). Uncovering uncertainty through disagreement. *Applied Cognitive Psychology*, 30(3), 387-400.
<https://psycnet.apa.org/doi/10.1002/acp.3213>
- J7 **Chan, J.**, & Schunn, C. (2015). The importance of iteration in creative conceptual combination. *Cognition*, 145, 104-115.
<https://doi.org/10.1016/j.cognition.2015.08.008>
- J6 **Chan, J.**, Dow, S. P., & Schunn, C. (2015). Do the best design ideas (really) come from conceptually distant sources of inspiration? *Design Studies*, 36, 31-58.
<https://doi.org/10.1016/j.destud.2014.08.001>
[Design Studies Best Paper Award]
- J5 **Chan, J.**, & Schunn, C. (2015). The impact of analogies on creative concept generation: Lessons from an in vivo study in engineering design. *Cognitive Science*, 39, 126-155. <https://doi.org/10.1111/cogs.12127>
- J4 Fu, K., **Chan, J.**, Schunn, C., Cagan, J., & Kotovsky, K. (2013). Expert representation of design repository space: A comparison to and validation of algorithmic output. *Design Studies*, 34, 729-762.
<https://doi.org/10.1016/j.destud.2013.06.002>

- J3 Fu, K., **Chan, J.**, Cagan, J., Kotovsky, K., Schunn, C., & Wood, K. (2013). The meaning of “near” and “far”: The impact of structuring design databases and the effect of distance of analogy on design output. *Journal of Mechanical Design*, 135, Article 021007, 1-12. <https://doi.org/10.1115/1.4023158>
- J2 **Chan, J.**, Paletz, S., & Schunn, C. (2012). Analogy as a strategy for supporting complex problem solving under uncertainty. *Memory and Cognition*, 40, 1352-1365. <https://doi.org/10.3758/s13421-012-0227-z>
- J1 **Chan, J.**, Fu, K., Schunn, C., Cagan, J., Wood, K., & Kotovsky, K. (2011). On the benefits and pitfalls of analogies for innovative design: Ideation performance based on analogical distance, commonness, and modality of examples. *Journal of Mechanical Design*, 133, Article 081004, 1-11. <https://doi.org/10.1115/1.4004396>
- II.B.2. Invited Reviews of Journal Articles
- II.B.3. Perspectives, Opinions, and Letters
- POL1 **Chan, J.** (2021). Sustainable authorship models for a discourse-based scholarly communication infrastructure. *Common Place*, 1(1), 1-10. <https://doi.org/10.21428/6ffd8432.8b4aad0c>
- II.B.4. Other
- II.C. Published Conference Proceedings
- II.C.1. Refereed Conference Proceedings
- Note: In my sub-discipline of Human-Computer Interaction (HCI), archival full papers published in the proceedings of the top-ranked, highly selective conferences are viewed as equally (if not more) important than journal articles. These are highly peer reviewed, with typical acceptance rates under 30%, and are considered final archival publications.*
- Additional special notation: {acceptance rate for submission category when available}*
- RCP26 Zhu, S.†, & **Chan, J.** (2025). Sense and Senseability: Exploring Future Immersive Environments for Scholarly Sensemaking. In *Proceedings of the ACM 2025 Conference on Creativity & Cognition*.
- RCP25 Bao, C.†, Shiue, Y.†, Carpuat, M., & **Chan, J.** (2025). Words as bridges: Exploring computational support for cross-disciplinary translation work. In *Proceedings of the 2025 ACM Conference on Intelligent User Interfaces*.

- RCP24 Zhu, S.†, Haisfield, R., Langen, B., & **Chan, J.** (2024). Patterns of hypertext-augmented sensemaking. In *Proceedings of the 2024 ACM Conference on User Interface Software and Technology*. <https://doi.org/10.1145/3654777.3676338>
- RCP23 Srinivasan, A.†, & **Chan, J.** (2024). Improving selection of analogical inspirations through chunking and recombination. In *Proceedings of the 2024 ACM SIGCHI Conference on Creativity and Cognition*, 374-397.
<https://doi.org/10.1145/3635636.3656207>
{20% acceptance} **[Best Paper Honorable Mention]**
- RCP22 Emuna, H., Borenstein, N., Qian, X.†, Kang, H., **Chan, J.**, Kittur, A., & Shahaf, D. (2024). Imitation of life: A search engine for biologically inspired design. *Proceedings of the AAAI Conference on Artificial Intelligence*, 503-511.
<https://doi.org/10.1609/aaai.v38i1.27805>
- RCP21 **Chan, J.**, Ding, Z.†, Kamrah, E., & Fuge, M. (2024). Formulating or fixating: Effects of examples on problem solving vary as a function of example presentation interface design. In *Proceedings of the 2024 CHI Conference on Human Factors in Computing Systems*, Article 179, C1-16.
<https://doi.org/10.1145/3613904.3642653>
{26.3% Acceptance}
- RCP20 Ding, Z.†, Srinivasan, A.†, Macneil, S., **Chan, J.** (2023). Fluid transformers and creative analogies: Exploring large language models' capacity for augmenting cross-domain analogical creativity. In *Proceedings of the 2023 ACM SIGCHI Conference on Creativity and Cognition*, 489-505. <https://doi.org/10.1145/3591196.3593516>
{20% Acceptance} **[Best Paper Honorable Mention]**
- RCP19 Hope, T., Tamari, R., Hershovich, D., Kang, H. B., **Chan, J.**, Kittur, A., & Shahaf, D. (2022). Scaling creative inspiration with fine-grained functional aspects of ideas. In *Proceedings of the 2022 CHI Conference on Human Factors in Computing Systems*, Article 12, 1-15. <https://doi.org/10.1145/3491102.3517434>
{24.7% Acceptance}
- RCP18 Qian, X.†, Oard, D. W., **Chan, J.** (2022). Conversational interaction with historical figures: What's it good for? In *Information for a Better World: Shaping the Global Future. iConference 2022. Lecture Notes in Computer Science, vol 13193*, 32-49.
https://doi.org/10.1007/978-3-030-96960-8_3

- RCP17 Qian, X.†, Rossi, R. A., Du, F., Kim, S., Koh, E., Malik, S., Lee, T. Y., & **Chan, J.** (2021). Learning to recommend visualizations from data. In *Proceedings of the 2021 ACM SIGKDD Conference on Knowledge Discovery & Data Mining*, 1359-1369. <https://doi.org/10.1145/3447548.3467224>
{15.5% Acceptance}
- RCP16 Qian, X.†, Koh, E., Du, F., Kim, S., **Chan, J.**, Rossi, R. A., Malik, S., & Lee, T. Y. (2021). Generating accurate caption units for figure captioning. In *Proceedings of the Web Conference 2021*, 2792-2804.
<https://doi.org/10.1145/3442381.3449923>
{20.4% Acceptance}
- RCP15 Morabito, J. S.†, & **Chan, J.** (2021). Managing context during scholarly knowledge synthesis: Process patterns and system mechanics. In *Proceedings of the 2021 ACM SIGCHI Conference on Creativity and Cognition*, Article 39, 1-5.
<https://doi.org/10.1145/3450741.3465244>
{24.8% Acceptance}
- RCP14 Qian, X.†, Fenlon, K., Lutters, W., & **Chan, J.** (2020). Opening up the black box of scholarly synthesis: Intermediate products, processes, and tools. In *Proceedings of the Association for Information Science and Technology*, Article 57:e270, 1-12
<https://doi.org/10.1002/pa2.270>
- RCP13 Pradhan, A., Jelen, B., Siek, K. A., **Chan, J.**, & Lazar, A. (2020). Understanding older adults' participation in design workshops. In *Proceedings of the 2020 CHI Conference on Human Factors in Computing Systems*, 1-15.
<https://doi.org/10.1145/3313831.3376299>
{24.3% Acceptance}
- RCP12 Gilon, K., **Chan, J.**, Ng, F. Y., Assaf, H. L., Kittur, A., & Shahaf, D. (2018). Analogy mining for specific design needs. In *Proceedings of the 2018 CHI Conference on Human Factors in Computing Systems*, 121:1-11.
<https://doi.org/10.1145/3173574.3173695>
{25.7% Acceptance}
- RCP11 Hope, T., **Chan, J.**, Kittur, A., & Shahaf, D. (2017). Accelerating innovation through analogy mining. In *Proceedings of the 2017 ACM SIGKDD International Conference on Knowledge Discovery and Data Mining*, 235-243.
<https://doi.org/10.1145/3097983.3098038>
{17.3% Acceptance} **[Best Paper]**

- RCP10 **Chan, J.**, Siangliulue, P., Qori, D., Liu, R., Moradinezhad, R., Aman, S., Solovey, E., Gajos, K., & Dow, S. P. (2017). Semantically far inspirations considered harmful? Accounting for cognitive states in collaborative ideation. In *Proceedings of the 2017 ACM SIGCHI Conference on Creativity and Cognition*, 93-105. <https://doi.org/10.1145/3059454.3059455>
{28.7% Acceptance}
- RCP9 Andolina, S., Schneider, H., **Chan, J.**, Klouche, K., Jacucci, G., & Dow, S. P. (2017). Crowdbord: Augmenting In-Person Idea Generation with Real-Time Crowds. In *Proceedings of the 2017 ACM SIGCHI Conference on Creativity and Cognition*, 106-118. <https://doi.org/10.1145/3059454.3059477>
{28.7% Acceptance}
- RCP8 Siangliulue, P., **Chan, J.**, Dow, S. P., & Gajos, K. Z. (2016). IdeaHound: Improving large-scale collaborative ideation with crowd-powered real-time semantic modeling. In *Proceedings of the 2016 ACM Conference on User Interface Software and Technology*, 609-624. <https://doi.org/10.1145/2984511.2984578>
{20.6% Acceptance}
- RCP7 **Chan, J.**, Dang, S. C., & Dow, S. P. (2016). Comparing different sensemaking approaches for large-scale ideation. In *Proceedings of the 2016 CHI Conference on Human Factors in Computing Systems*, 2717-2728. <https://doi.org/10.1145/2858036.2858178>
{27.3% Acceptance}
- RCP6 **Chan, J.**, Dang, S. C., & Dow, S. P. (2016). Improving crowd innovation with expert facilitation. In *Proceedings of the 2016 ACM Conference on Computer-Supported Cooperative Work and Social Computing*, 1223-1235. <https://doi.org/10.1145/2818048.2820023>
{25% Acceptance}
- RCP5 **Chan, J.** & Schunn, C. (2016). A computational linguistic approach to modelling the dynamics of design processes. In *Proceedings of the 11th Design Thinking Research Symposium*, 119-134. <https://doi.org/10.1201/9781315208169-9>
- RCP4 Siangliulue, P., **Chan, J.**, Gajos, K. Z., & Dow, S. P. (2015). Providing timely examples improves the quantity and quality of generated ideas. In *Proceedings of the 2015 ACM SIGCHI Conference on Creativity and Cognition*, 83-92. <https://doi.org/10.1145/2757226.2757230>

{28% Acceptance} [Nominated: Best Contribution to Creative Communication]

- RCP3 **Chan, J.**, Schunn, C., & Dow, S. (2014). Overreliance on conceptually far sources decreases the creativity of ideas. In *Proceedings of the Annual Meeting of the Cognitive Science Society*, 313-318. <https://escholarship.org/uc/item/2bm91572>
- RCP3 Fu, K., **Chan, J.**, Schunn, C., Cagan, J., & Kotovsky, K. (2013). Testing the basis for an automated design-by-analogy tool through comparison to expert thinking. In *Proceedings of ASME International Conference on Design Theory and Methodology (DTM)*, Article V005T06A026, 1-16. <https://doi.org/10.1115/DETC2013-12128>
- RCP2 Fu, K., **Chan, J.**, Cagan, J., Kotovsky, K., Schunn, C., & Wood, K. (2012). The meaning of “near” and “far”: The impact of structuring design databases and the effect of distance of analogy on design output. In *Proceedings of ASME International Conference on Design Theory and Methodology (DTM)*, 877-888. <https://doi.org/10.1115/DETC2012-70420>
- [Best Paper Award]
- RCP1 Cagan, J., **Chan, J.**, Fu, K., Schunn, C., Wood, K., & Kotovsky, K. (2011). On the effective use of design-by-analogy: The influences of analogical distance and commonness of analogous designs on ideation performance. *Proceedings of the International Conference on Engineering Design*, 85-96.

II.C.2. Non-Refereed Conference Proceedings

II.C.3. Other

II.D. Conferences, Workshops, and Talks

II.D.1. Keynotes

II.D.2. Invited Talks

IT19 **Chan. J.** (2023). Sociotechnical Infrastructures for Interdisciplinary Scholarly Synthesis, *MetaGov Seminar Series*, Remote: November 15, 2023.

IT18 **Chan. J.** (2023). Sociotechnical infrastructures for interdisciplinary scholarly synthesis. *Army Research Office Workshop on Decentralized Science*, New York, NY: August 18, 2023.

- IT17 **Chan. J.** (2023). Sociotechnical infrastructures for interdisciplinary scholarly synthesis. *Allen Institute for Artificial Intelligence Semantic Scholar Brown Bag Series*, Remote: July 11, 2023.
- IT16 **Chan. J.** (2022). Accelerating Scientific Discovery by Lowering Barriers to User-Generated Synthesis of Scientific Literature. *University of Maryland Organizational Teams and Technology Research Society Seminar Series*. Remote: October 28, 2022.
- IT15 **Chan. J.** (2021). Accelerating Scientific Discovery by Lowering Barriers to User-Generated Synthesis of Scientific Literature. *Carnegie Mellon University Human-Computer Interaction Institute Seminar Series*, Remote: October 1, 2021.
- IT14 **Chan. J.** (2021). Designing a New Medium for Sustainable Knowledge Synthesis. *Ought Research, Lunch and Learn*, Remote: September 23, 2021.
- IT13 **Chan. J.** (2021). Semantic publishing practices in annotation. *Meta-Data Enhanced Study Reports Working Group*, Remote: September 8, 2021.
- IT12 **Chan. J.** (2021). Knowledge Management Research and Practice. *Protocol Labs Associate Research Program Manager Seminar*, Remote: June 29, 2021.
- IT11 **Chan. J.** (2021). Human-Computer Systems for Augmenting Knowledge Synthesis. *University of Pittsburgh Cognitive Psychology Program Brown Bag Speaker Series*, Remote: February 18, 2021.
- IT10 **Chan. J.** (2021). Towards Open and Sustainable Infrastructures for Interdisciplinary Synthesis. *Protocol Labs Research Seminar Series*, Remote: February 16, 2021.
- IT9 **Chan. J.** (2021). Search Mastery for Interdisciplinary Literature Synthesis: Problems, Practical Solutions, and Research Frontiers. *University of Maryland iSchool Search Mastery Speaker Series*, Remote: February 8, 2021.
- IT8 **Chan. J.** (2018). Making Literature Reviewing Less Painful and More Commonplace: Exploring Sociotechnical Solutions. *University of Maryland Educational Psychology Colloquium*, Remote: November 13, 2018.

- IT7 **Chan. J.** (2018). Back to the Future: How people construct new creative ideas from old knowledge, and how technology can help. *Virginia Tech Northern Virginia Center Computer Science Seminar*, Falls Church, VA: April 27, 2018.
- IT6 **Chan. J.** (2017). Understanding and augmenting creative inspiration: The tricky case of prior knowledge. *College of Information Studies, University of Maryland College Park*, College Park, MD: February 21, 2017.
- IT5 **Chan. J.** (2017). Understanding and augmenting creative inspiration: The tricky case of prior knowledge. *School of Information, University of Texas at Austin*, Austin, TX: February 14, 2017.
- IT4 **Chan. J.** (2017). How analogies lead to creative breakthroughs. *Department of Psychology, New Mexico State University*, Las Cruces, NM: January 27, 2017.
- IT3 **Chan. J.** (2016). How analogies lead to creative breakthroughs. *Department of Psychology, University of California Santa Cruz*, Santa Cruz, CA: January 27, 2016.
- IT2 **Chan. J.** (2015). Principles and tools for knowledge-based creativity. *School of Interactive Computing, Georgia Institute of Technology*, Atlanta, GA: February 24, 2015.
- IT1 **Chan. J.** (2013). Good ideas: Where do they come from, and how can we get more of them? *Maya Design Brown Bag Talk Series*, Pittsburgh, PA: December 5, 2013.

II.D.3. Refereed Presentations

- RP4 Patel, P.†, **Chan, J.** (2023). Mapping and Evaluating Evidence for Application: Philosophical, Methodological, and Interaction Design Foundations. *Talk presented at Metascience 2023*.
- RP3 **Chan, J.**, Chang, J., Hope, T., Shahaf, D., & Kittur, A. (2018). Collective Intelligence Systems for Analogical Search. *Talk presented at 2018 ACM Conference on Collective Intelligence*.
- RP2 Toxtli, C., **Chan, J.**, Lasecki, W., & Savage, S. (2018). Enabling Expert Critique with Chatbots and Micro Guidance. *Talk presented at 2018 ACM Conference on Collective Intelligence*.

- RP1 **Chan, J.**, & Schunn, C. (2012). Re-examining the impact of analogies on creative ideation search patterns in engineering design. *Talk presented at the 4th Biennial Conference of the International Society for the Psychology of Science and Technology (ISPST)*.

II.D.4. Refereed Workshop Papers

- RWP5 **Chan, J.**, Zhu, S.†, Haisfield, R., Langen, B., & Akamatsu, M. (2024). Hypertext and the future of augmented sensemaking. *CHI 2024 Sensemaking Workshop*, 1-6. <https://sites.google.com/view/chi2024-sensemaking-workshop/home>
- RWP4 **Chan, J.**, Daumé III, H., Dickerson, J. P., Kacorri, H., & Shneiderman, B. (2021). Supporting human flourishing by ensuring human involvement in AI systems. *NeurIPS Human-Centered AI Workshop*, 1-5. <https://sites.google.com/view/hcai-human-centered-ai-neurips/home>
- RWP3 **Chan, J.**, Qian, X.†, Fenlon, K., & Lutters, W. G. (2020). Where the rubber meets the road: Identifying integration points for semantic publishing in existing scholarly practice. *JCDL 2020 Workshop on Conceptual Modeling*, 1-10. <https://sig-cm.github.io/news/JCDL-2020-CFP/>
- RWP2 **Chan, J.**, Hope, T., Shahaf, D., & Kittur, A. (2016). Scaling up analogy with crowdsourcing and machine learning. *Computational Analogy Workshop at ICCBR-16*, 1-10. <https://qrg.northwestern.edu/CA16/CompAnalogyWorkshop16.html>
- RWP1 Luo, W., Litman, D., & **Chan, J.** (2013). Reducing annotation effort on unbalanced corpus based on cost matrix. *Proceedings of 2013 Conference of the North American Chapter of the Association for Computational Linguistics: Human Language Technologies (NAACL HLT 2013) Student Research Workshop*, 8-15 <https://aclanthology.org/N13-2002/>

II.D.5. Refereed Abstracts

Paletz, S. B. F., **Chan, J.**, & Schunn, C. (2014). Making conflicts work: Team success moderates the relationship between micro-conflicts and uncertainty. *Proceedings of 2014 Interdisciplinary Network for Group Research (INGRoup) Conference*.

II.D.6. Refereed Posters

- RPS17 Elsayed-Ali†, S., Bonsignore, E., & **Chan, J.** (2023). Personal objects as design materials: A case study of co-designing safe spaces with young adults. *Poster presented at the ACM Conference on Computer Supported Cooperative Work and Social Computing*, 235-240. <https://doi.org/10.1145/3584931.3606991>
- RPS16 Zhu, S.†, **Chan, J.** (2023). Exploring distributed synthesis: In-progress findings from guided tours of scholarly knowledge synthesis work practices with a distributed lens. *Poster presented at the ACM Conference on Computer Supported Cooperative Work and Social Computing*, 328-332. <https://dl.acm.org/doi/10.1145/3584931.3606985>
- RPS15 **Chan, J.**, & Rudd, D. A†. (2023). Supporting exploration of far-domain analogical inspirations with bridging analogies. *Poster presented at the ACM SIGCHI Conference on Creativity and Cognition*, 293-297. <https://doi.org/10.1145/3591196.3596829>
- RPS14 Srinivasan, A.†, **Chan, J.** (2023). AnalogiLead: Improving selection of analogical inspirations with chunking and recombination. *Demo and poster presented at the ACM SIGCHI Conference on Creativity and Cognition*, 338-341. <https://dl.acm.org/doi/10.1145/3591196.3596817>
- RPS13 Huang, Z., Quan, K., **Chan, J.**, MacNeil, S. (2023). CausalMapper: Challenging designers to think in systems with causal maps and large language model. *Demo and poster presented at the ACM SIGCHI Conference on Creativity and Cognition*, 325-329. <https://dl.acm.org/doi/10.1145/3591196.3596818>
- RPS12 **Chan, J.**, Brier, J., Farhadi, Z., Lee, M., Janzen, S., Chi, W.-W.†, Fellows, A., & Winter, S. (2020). A theoretical analysis of independent business owners' preferences for informal information sources. *Poster presented the Association for Information Science and Technology*, e352:1-4. <https://doi.org/10.1002/pra2.352>
- RPS11 Qian, X.†, Koh, E., Du, F., Kim, S., & **Chan, J.** (2020). A formative study on designing accurate and natural figure captioning systems. *Poster presented at the CHI Conference on Human Factors in Computing Systems*, 1-8. <https://doi.org/10.1145/3334480.3382946>

- RPS10 Qian, X.†., Erhart, M. J., Kittur, A., Lutters, W. G., & **Chan, J.** (2019). Beyond iTunes for papers: Redefining the unit of interaction in literature review tools. *Poster presented at the ACM Conference on Computer Supported Cooperative Work and Social Computing*, 314-346. <https://doi.org/10.1145/3311957.3359455>
- RPS9 **Chan, J.** & Schunn, C. (2016). Old hat, useless, or impossible? The importance of separating quality into impact and feasibility when studying real- world creative ideation. *Poster presented at the 57th Annual Meeting of the Psychonomic Society*, 1. https://cdn.ymaws.com/www.psychonomic.org/resource/resmgr/annual_meeting/2016_meeting/2016PS-Abstracts-11-27.pdf#page=216
- RPS8 **Chan, J.**, Dang, S. C., & Dow, S. P. (2016). IdeaGens: Enabling expert facilitation of crowd brainstorming. *Demo and extended abstract presented at the ACM Conference on Computer Supported Cooperative Work and Social Computing*, 13-16. <https://doi.org/10.1145/2818052.2874313>
- RPS7 Siangliulue, P., **Chan, J.**, Huber, B., Dow, S. P., & Gajos, K. Z. (2016). IdeaHound: Self-sustainable idea generation in creative online communities. *Demo and extended abstract presented at the ACM Conference on Computer Supported Cooperative Work and Social Computing (CSCW 2016)*, 98-101. <https://doi.org/10.1145/2818052.2874335>
- RPS6 **Chan, J.**, Dang, S., Kremer, P., Guo, L., & Dow, S. (2014). IdeaGens: A social ideation system for guided crowd brainstorming. *Demo and extended abstract presented at the 2nd AAAI Conference on Human Computation and Crowdsourcing*, 67-68. <https://doi.org/10.1609/hcomp.v2i1.13140>
- RPS5 **Chan, J.** & Nokes-Malach, T. (2014). The impact of physical spaces on divergent and convergent problem-solving performance. *Poster presented at the 36th Annual Meeting of the Cognitive Science Society*, 3198. <https://escholarship.org/uc/item/9gc6x248>
- RPS4 **Chan, J.**, Dow, S., & Schunn, C. (2014). Conceptual distance matters when building on others' ideas in crowd-collaborative innovation platforms. *Poster and extended abstract presented at the ACM Conference on Computer Supported Cooperative Work and Social Computing*, 141-144. <https://doi.org/10.1145/2556420.2556500>

- RPS3 **Chan, J., & Schunn, C. (2013).** Near rather than far analogical sources leads to success in a design competition. *Poster presented at the Annual Meeting of the Psychonomic Society*, 1.
https://cdn.ymaws.com/www.psychonomic.org/resource/resmgr/Annual_Meeting/Past_and_Future_Meetings/2013/PS_2013_Abstract_Book_WEB_1.pdf#page=187
- RPS2 **Chan, J., Fu, K., Schunn, C., Wood, K., Cagan, J., & Kotovsky, K. (2010).** What makes for inspirational examples in design? The effects of example modality, distance, and familiarity. *Poster presented at the Annual Meeting of the Cognitive Science Society*, 629. <https://escholarship.org/uc/item/7gz4g2qk>
- RPS1 **Chan, J., & Hagaman, J. A. (2009).** The role of visual imagery in deductive relational reasoning. *Poster presented at the Annual Meeting of the Psychonomic Society*, 1.
https://cdn.ymaws.com/www.psychonomic.org/resource/resmgr/Annual_Meeting/Past_and_Future_Meetings/2009/Abstracts09.pdf#page=51

II.D.7. Refereed Panels

- RPN1 **Byun, J., Chan, J., Kirsanow, K., Lang, D. & Reinhardt, B. (2021).** The role of tools in accelerating scientific discovery. *Panel at MetaScience 2021*.
<https://metascience2021.org/events/the-role-of-tools-in-accelerating-scientific-discovery/>

II.D.8. Non-Refereed Presentations

Chan, J. (2021). Engineering serendipity: Facilitating cross-disciplinary conversations with analogical search. *Talk presented at the UMD Human-Computer Interaction Lab (HCIL) Annual Symposium*.

II.D.9. Non-Refereed Workshop Papers

II.D.10. Non-Refereed Abstracts

II.D.11. Non-Refereed Posters

II.D.12. Non-Refereed Panels

II.D.13. Symposia

- SYM3 **Materiality in the creative process.** *International Society for the Study of*

Creativity and Innovation (ISSCI) Symposium on Information Materiality in Creative Knowledge Work, Remote: August 23, 2023.

- SYM2 Building sustainable knowledge infrastructures for collaborative open science. *AAAI Spring Symposium: Towards AI for Collaborative Open Science*, Palo Alto, CA: March 25, 2019.
- SYM3 Methodological issues and approaches in the study of long time-scale, naturalistic design processes across large numbers of design teams. *Integrating Laboratory Paradigms and Ethnographic Field Studies for Advancing Analyses of Creative Processes, Symposium at the DESIRE '11 Conference on Creativity and Innovation in Design*, Eindhoven, Netherlands: October 19-21, 2011.
- II.D.14. Workshops
- W3 **Chan, J.**, Naik, A., Akamatsu, Bekele, H., Bransom, E., Campbell, I., & Sparks, J. (2024). Overview of the Context24 shared task on contextualizing scientific claims. *Shared Task at the 4th Workshop on Scholarly Document Processing, ACL2024*, 12-21. <https://sdproc.org/2024/sharedtasks.html>
- W2 Patel, P.† & **Chan, J.** (2023). Mega-syntheses: A framework for crowdsourcing research evaluation and syntheses. *Unconference Workshop at Big Team Science Conference 2023*. <https://bigteamscienceconference.github.io/2023btscon/>
- W1 **Chan, J.**, Lutters, W., Schneider, J., Kirsanow, K., Bessa, S., & Saunders, J. (2022). Growing new scholarly communication infrastructures for sharing, reusing, and synthesizing knowledge. *Workshop at the ACM 2022 Conference on Computer Supported Cooperative Work and Social Computing*, 278–281. <https://doi.org/10.1145/3500868.3559398>
- II.D.15. Colloquia
- II.D.16. Other
- II.E. Professional and Extension Publications
- II.E.1. Reports and Non-Refereed Monographs
- II.E.2. Pre-print / Working Paper (*Not Work in Progress*)
- PP3 **Chan, J.**, Akamatsu, M., Vargas, D., Kawerau, L., & Gartner, M. (2024). Steps towards an infrastructure for scholarly synthesis. arXiv. <https://doi.org/10.48550/arXiv.2407.20666>

- PP2 Ding, Z.†, **Chan, J.** (2024). Intelligent canvas: Enabling design-like exploratory visual data analysis with generative AI through rapid prototyping, iteration and curation. arXiv. <https://doi.org/10.48550/arXiv.2402.08812>
- PP1 Ding, Z.†, **Chan, J.** (2023). Mapping the design space of interactions in Human-AI text co-creation tasks. arXiv. <https://doi.org/10.48550/arXiv.2303.06430>
- II.E.3. Legal Briefs
- II.E.4. Policy Briefs
- II.E.5. Refereed Extension Publications
- II.E.6. Non-Refereed Extension Publications
- II.E.7. Refereed Curricula
- II.E.8. Non-Refereed Curriculum
- II.E.9. Non-Refereed Journal Articles
- II.E.10. Other
- II.F. Book Reviews, Notes, and Other Contributions
- II.F.1. Book Reviews
- II.F.2. Essays
- II.F.3. Notes
- II.F.4. Manuals
- M1 **Chan, J.** (2020). Knowledge synthesis: A conceptual model and practical guide. Open and Sustainable Innovation Systems (OASIS) Lab. <https://oasislab.pubpub.org/pub/54t0y9mk/release/2>
16,597 total pageviews, 483 total downloads, from 8,136 total users (from pubpub analytics, as of August 1, 2024).
- II.F.5. Other
- II.G. Completed Creative Works and Scholarship
- II.G.1. Datasets
- DS1 **Chan, J., Naik, A., & Akamatsu, M.** (2024). Contextualizing scientific claims. <https://doi.org/10.57967/hf/2773>
Dataset of 585 scientific claims from research papers across domains of biology, computer science, and the social sciences, with expert-annotated contextualizing figures/tables, and methodological text snippets. Developed for NLP shared task on

claim verification and query-based extractive summarization models for scholarly document processing at workshop W3.

- II.G.2. Constructed Projects, Original Plans and Designs
- II.G.3. Demonstrations
- II.G.4. Inventions
- II.G.5. Software and Applications

SW1 **Chan, J., & Vargas, D. (2021).** Discourse Graph extension for RoamResearch [Computer Software]. <https://github.com/RoamJS/query-builder>

Impact:

- Incorporated into three online courses for academic notetaking, serving more than 2,000 students in total:
 - Magical Academic Notetaking: <https://roam-for-results.teachable.com/p/magical-academic-note-taking>
 - Cite-to-Write V2: <https://learn.cortexfutura.com/p/cite-to-write-v2>
 - Academic Mastery with Roam: <https://www.academicmasterywithroam.com/>
- Used to develop research and development planning process at venture capital firm (EC2)
- Core structured query functionality expanded by Vargas into more general-purpose software extension for RoamResearch with 6,374 downloads on RoamDepot extension marketplace as of August 1, 2024
<https://github.com/RoamJS/query-builder>

- II.G.6. Websites
- II.G.7. Exhibitions and Installations, Solo
- II.G.8. Exhibitions and Installations, Group
- II.G.9. Performing Arts
- II.G.10. Costume, Stage, Multimedia, and Theatrical Design
- II.G.11. Graphic Design
- II.G.12. Choreography
- II.G.13. Works of Creative Writing
- II.G.14. Film, Video, and Multimedia
- II.G.15. Vocal or Movement Design
- II.G.16. Citations and Reviews
- II.G.17. Other

II.H. Significant Works in Public Media

- II.H.1. Explanatory, Investigative, or Long-Form Journalism

- II.H.2. Other Significant Journalism
- II.H.3. Commentary / Analysis
- II.H.4. Interactive Online Database
- II.H.5. Radio Series
- II.H.6. TV / Radio Broadcast
- II.H.7. Ongoing Articles / Columns in Newspapers
- II.H.8. Ongoing Articles / Columns in Magazines
- II.H.9. Ongoing Articles / Columns in Newsletters
- II.H.10. Other

II.I. Works in Progress

Scholarly works in a publication status other than Published

Zhu, S.†, **Chan, J.** (under review). Sense and sensability: Exploring future immersive environments for scholarly sensemaking.

Ding, S.†, Brachman, M., **Chan, J.**, & Geyer, W. (under review). "The diagram is like guardrails": Structuring GenAI-assisted hypotheses exploration with an interactive shared representation.

II.J. Sponsored Research and Programs – Administered by the Office of Research Administration (ORA)

II.J.1. Grants

FC9 Chan-Zuckerberg Institute & Navigation Fund, *Piloting lab discourse graphs for sustainable research communication*, \$65,468 (UMD Subaward), \$1,350,000 (UW Award Total), 1/2025–1/2026.

Investigators: **Chan, J.** (Principal Investigator, UMD Subaward), Matthew Akamatsu (Principal Investigator, UW).

FC8 MetaGov, *Open Micropublishing of Evidence Knowledge Graphs for Evidence-Informed Deliberation*, \$8,550, 8/1/2024–1/1/2025.

Investigators: **Chan, J.** (Principal Investigator).

FC7 Alfred P. Sloan Foundation, G202219560, *Systematically Documenting New Sociotechnical Foundations for Research Synthesis Infrastructures*, \$99,999, 1/1/2023–1/1/2024.

Investigators: **Chan, J.** (Principal Investigator).

FC6	National Science Foundation, DUE- 2155072, <i>Using Computational Modeling to Transform Assessments of Creativity in Engineering Design</i> , \$318,879, 9/2022–8/2025. Investigators: Chan, J. (Principal Investigator), Fuge, M. (Former Principal Investigator, 9/2022–7/2024).
FC5	Office of Naval Research, N00014-20-1-2506, <i>Accelerating Cross-Disciplinary Innovation with Computational Analogy</i> , \$349,647, 6/8/2020–6/30/2024. Investigator: Chan, J. (Principal Investigator).
FC4	National Science Foundation, CMMI-1826083, <i>When Does a Diverse Initial Solution Set Lead to Better Engineering Design Outcomes?</i> \$549,445, 9/2018–8/2023. Investigators: Fuge, M. (Principal Investigator), Chan, J. (Co-Principal Investigator).
FC3	Institute of Museum and Library Sciences, LG-71-17-0124-17, <i>Data Analytics to Support Innovation Communities</i> , \$458,319, 9/2017–3/2022. Investigators: Winter, S. (Principal Investigator), Chan, J. (Co-Principal Investigator).
FC2	National Science Foundation, IIS-1816242, <i>CHS: Small: Innovation Through Analogical Search</i> , \$164,951 (UMD Subaward), \$500,000 (CMU Award Total), 8/2018–7/2021. Investigators: Chan, J. (Principal Investigator, UMD Subaward), Kittur, A. (Principal Investigator, CMU), Shahaf, D. (Co-Principal Investigator).
FC1	National Science Foundation, Doctoral Dissertation Research in Science of Science and Innovation Policy 1360013, <i>Understanding the Impact of Sources of Inspiration in Creative Design: The Role of Conceptual Distance</i> , \$15,261, 5/2014–5/2015 Investigators: Chan, J. (Principal Investigator).
II.J.2.	Contracts
II.J.3.	Other
OG1	UMD Teaching and Learning Transformation Center Teaching Innovation Grant, <i>Reimagining Introductory Programming Courses to Broaden Participation in Computing in a Post-Generative AI World</i> . \$50,000, 1/2024–12/2024.

Investigators: **Chan, J.** (Principal Investigator), Weintrop, D. (Co-Principal Investigator).

II.K. Gifts, and Funded Research not administered by ORA

II.K.1. Gifts (*solicited and in-kind funds*)

FG3 Google Award for Inclusion Research, *“Computer, Help Me with My Code”: Understanding the Impact of Conversational Large Language Models in Introductory Programming Courses for Students from Historically Excluded Populations in Computing*, \$60,000, 1/2024.

FG2 Protocol Labs, *Accelerating Scientific Synthesis with New Authorship Models for Decentralized Discourse Graphs*, \$50,000, 5/2021.

FG1 Adobe Research, *Adobe University Collaboration Fund*, \$20,000, 8/2020.

II.K.2. Community Capacity Building (*assistance provided resulting in awards*)

II.K.3. Volunteer Contributions

II.K.4. Other

II.L. Centers for Research, Scholarship, and Creative Activities

II.L.1. Centers Established

II.L.2. Centers Directed

II.L.3. Symposia Organized (*through center*)

II.L.4. Other

II.M. Patents

II.M.1. Device

II.M.2. Other

II.N. Entrepreneurial, Technology Transfer, and Public Engagement Activities

II.O. Other Research / Scholarship / Creative Activities

II.P. Research Fellowships, Prizes and Awards

2024 Best Paper Honorable Mention, ACM Conference on Creativity and Cognition [RCP23]

2023	Best Paper Honorable Mention, ACM Conference on Creativity and Cognition [RCP20]
2017	Best Paper Award, ACM Conference on Knowledge Discovery and Data Mining [RCP11]
2016	Design Studies Award for Best Paper, Design Research Society [J6]
2014	Tim Post Award for Research Excellence, University of Pittsburgh
2013	Andrew Mellon Pre-Doctoral Fellowship, University of Pittsburgh
2012	Best Paper Award, ASME 24th International Conference on Design Theory and Methodology [RCP2]
2009	Hurie Award to Outstanding Member of the Senior Class, University of the Ozarks
2009	Kiwanis Award to Outstanding Senior, University of the Ozarks
2008	Summer Science Research Fellowship, American Psychological Association

III. Teaching, Extension, Mentoring, and Advising

III.A. Courses Taught

Includes courses taught at UMD. Enrollments from UMEG provided in parentheses, and unusual course formats noted.

INST201: Introduction to Information Science, *UMD College of Information*

- Fall 2018 (98)
- Spring 2018 (98)

INST126: Introduction to Programming for Information Professionals, *UMD College of Information*

- Spring 2025 (83)
- Fall 2024 (60)
- Spring 2024 (79)
- Spring 2023 (67)
- Spring 2022 (66)

- Spring 2021 (119), online
- Fall 2020 (50), online
- Spring 2020 (51), in-person moved to online due to COVID
- Fall 2018 (61)

INST709: Independent Study (Research), *UMD College of Information*

- Fall 2022 (1)
- Summer 2021 (4)
- Fall 2020 (1)
- Summer 2019 (2)

INST799: Master's Thesis Research, *UMD College of Information*

- Spring 2023 (1)
- Fall 2022 (1)
- Spring 2022 (2)
- Fall 2022 (2)
- Summer 2020 (1)
- Spring 2020 (1)
- Fall 2019 (1)

INST810/818: Individualized Research Experience, *UMD College of Information*

- Fall 2021 (1)
- Summer 2021 (1)
- Spring 2021 (1)
- Fall 2020 (2)
- Fall 2019 (1)

INST828: Readings Seminar: Human-Centered Explainable AI, *UMD College of Information*

- Spring 2025 (10)

INST828: Readings Seminar: Human-Centered AI-Infused Systems: Conceptual Foundations and Design Patterns, *UMD College of Information*

- Spring 2024 (7)

INST888: Doctoral Seminar I, *UMD College of Information*

Note: beginning Fall 2022, renamed to INST801: Theoretical and Epistemological Foundations in Information Studies

- Fall 2024 (14)
- Fall 2023 (8)

- Fall 2022 (19)
- Fall 2021 (19)

INST888: Doctoral Seminar II, *UMD College of Information*

- Spring 2022 (19)
- Spring 2020 (11), in-person moved to online due to COVID
- Spring 2019 (10)

INST898: Doctoral Dissertation Research, *UMD College of Information*

- Fall 2024 (2)
- Spring 2024 (1)
- Fall 2023 (1)

INST899: Pre-Candidacy Research, *UMD College of Information*

- Spring 2025 (3)
- Fall 2023 (1)
- Spring 2023 (2)
- Fall 2022 (2)
- Spring 2022 (2)

CMSC898: Pre-Candidacy Research, *UMD Department of Computer Science*

- Fall 2023 (1)
- Spring 2023 (1)

HDCC208Z: Hacking the Creative Process: Theories, Practices and Tools, *UMD Design Cultures and Creativity, Honors College*

- Fall 2019 (8)

III.B. Teaching Innovations

III.B.1. Major Programs Established

2021 BA in Technology and Information Design, *UMD College of Information*. Core founding committee member.

III.B.2. Education Abroad Established

III.B.3. Textbooks

III.B.4. Software, Applications, Online Education, etc.

2020 Established autograded programming exercises for INST126 for enhanced formative assessment and increased opportunities for practice, funded by

Teaching Innovation Grant (Principal Investigators Phil Piety and Niklas Elmqvist, UMD INFO)

- III.B.5. Instructional Workshops and Seminars Established
- III.B.6. Course or Curriculum Development
- III.B.7. Teaching Modules
- III.B.8. Other

- III.C. Advising: Research or Clinical
- III.C.1. Undergraduate

Honors Thesis Graduate Mentor

Julie Allerton, *University of Pittsburgh, B.S. Psychology* (Fall 2013).
Thesis: *Factors of creative, social, and physical activity and cognitive decline.*

Emily Blackdiamond, *University of Pittsburgh, B.S. Psychology* (Fall 2013).
Thesis: *Personality type as a factor of creativity.*

NSF REU Mentor

Emily Van Horn (Summer 2017), Samuel Lapp (Summer 2016), Blake Vilas (Summer 2015), Peter Kramer (Summer 2014), *Carnegie Mellon University, Human-Computer Interaction Institute.*

Independent Study Mentor

Temitope Omobo (Summer 2018), *UMD, B.S. Information Science.*

Michelle Tai (Spring 2016), Varun Singh (Spring 2016), Angela Liu (Spring 2015), *Carnegie Mellon University, B.S. Human-Computer Interaction.*

Anurag Andra (Fall 2013), Timothy Burkhart (Spring 2013), Julie Allerton (Fall 2012), Julie Ebling (Fall 2012), Samuel Ryneearson (Summer 2012), Allison Haley (Summer 2012), Courtney Stein (Spring 2012), Sophia Bender (Spring 2011), *University of Pittsburgh, B.S. Psychology.*

First Experiences in Research

Rebecca Sax, Tiemoko Ballo, Michael Ye (Spring 2011), *University of Pittsburgh, B.S. Psychology.*

III.C.2. Master's

Thesis Chair

Arvind Srinivasan, *Master of Science in Human-Computer Interaction (HCIM)*, UMD, Spring 2023.

Thesis: *Improving selection of analogical inspirations with chunking and recombination.*

AJ Rudd Jr., *HCIM, UMD, Spring 2022.*

Thesis: *Computational support for bridging analogies.*

Sarah DiPasquale., *HCIM, UMD, Spring 2022.*

Thesis: *How do nonprofits involve beneficiaries in the design of mission programs and services?*

Zahra Farhadi, *Master of Science in Information Management (MIM), UMD* (Co-chair: Susan Winter), Spring 2021.

Thesis: *How do the public libraries use online media platforms to reach small business owners?*

John Morabito, *HCIM, UMD, Spring 2020.*

Thesis: *Context and the conceptual building blocks for synthesis in the literature review process.*

Thesis Committee Member

Sourabh Mane, *HCIM, UMD* (Chair: Niklas Elmqvist), Spring 2024.

Thesis: *The role of 3D telemetry analysis in combat flight simulation.*

Dinesh Kumar Nandri, *HCIM, UMD* (Co-Chairs: Diana Marsh, Elizabeth B. Bonsignore), Spring 2024.

Thesis: *Exploring the role of generative artificial intelligence in culturally relevant storytelling for native language learning among children.*

Abhinav Kannan, *HCIM, UMD* (Chair: Niklas Elmqvist), Spring 2023.

Thesis: *Data-driven storytelling in dynamic graph comics through hierarchical clustering.*

Caroline Berger, *HCIM, UMD* (Chair: David Weintrop), Spring 2023.

Thesis: *I Feel Like I'm Teaching in a Gladiator Ring": Barriers and Benefits of Live Coding.*

Rachel Wood, *HCIM, UMD* (Chair: Jonathan Lazar), Fall 2021.

Thesis: *Defining digital affinity: Theories, models, and frameworks.*

Independent Study

Kanishka Jain, *UMD College of Information*, Summer 2021

Kunal Eapen, *UMD College of Information*, Fall 2018–Spring 2019

III.C.3. Doctoral

Dissertation Chair (Completed)

Salma Elsayed-Ali, *PhD in Information Studies, UMD* (Co-Chair: Elizabeth Bonsignore)

Fall 2019–Spring 2024 (Graduated, currently Open Science intern, NASA)

Dissertation: *Personal objects as design materials.*

Dissertation Chair (Current)

Connie Siebold, *PhD in Information Studies, UMD.*

Dissertation: *Sinew humans: Brokering as sociomaterial practice.*

Spring 2024–present (Passed Dissertation Proposal, Fall 2024)

Siyi Zhu, *PhD in Information Studies, UMD.*

Fall 2022–present (Preparing Integrative Paper)

Purav Patel, *PhD in Information Studies, UMD.*

Fall 2022–present (Preparing Integrative Paper)

Zijian Ding, *PhD in Information Studies, UMD.*

Fall 2021–present (Preparing Dissertation Proposal)

Dissertation Chair (Past)

Yow-Ting Shiue, *PhD in Computer Science, UMD*.

Fall 2022–Fall 2023 (Withdrew)

Tammie Nelson, *PhD in Information Studies, UMD* (Co-advisor: Susannah Paletz).

Spring 2021–Summer 2023 (Withdrew, currently Administrative and Program Data Manager, Vinecorps)

Wei-Wei Chi, *PhD in Information Studies, UMD*.

Fall 2019–Summer 2021 (Withdrew, currently Data Research Analyst, The Johns Hopkins University)

Xin Qian, *PhD in Information Studies, UMD*.

Fall 2018–Summer 2021 (Completed Integrative Paper, moved to new chair Doug Oard for dissertation)

Dissertation: Committee Member

Sigfried Gold, PhD in Information Studies, UMD (Chair: Wayne Lutters), Summer 2024.

Dissertation: *Value sets for the analysis of real-world patient data: Problems, theory, and solutions*.

Joohee Choi, PhD in Information Studies, UMD (Chair: Yla Tausczik), Fall 2020.

Dissertation: *The effect of role specialization and transactive memory systems on performance in data science teams*.

Integrative Paper: Chair

Note: Integrative Papers are the equivalent of comprehensive exams for the PhD in Information Studies: after completion, students advance to Doctoral Candidacy, with the Dissertation Proposal as the next milestone.

Siyi Zhu, PhD in Information Studies, UMD, Fall 2024.

Integrative Paper: *Materializing abstraction: A prospective of future of sensemaking grounded in prior research and modern arts*.

Purav Patel, PhD in Information Studies, UMD, Fall 2024.

Integrative Paper: *"Am I crazy or is this wrong?" A digital ethnography of informal crowd reviews of research.*

Zijian Ding, PhD in Information Studies, UMD, Spring 2024.

Integrative Paper: *Intelligent Canvas: Enabling design-like exploratory visual data analysis through rapid prototyping, iteration and curation.*

Xin Qian, PhD in Information Studies, UMD, Spring 2021.

Integrative Paper: *Bringing the Ask Me Anything system into memorial museums: Current processes, opportunities, and challenges.*

Salma Elsayed-Ali, PhD in Information Studies, UMD, Spring 2021 (Co-Chair: Elizabeth Bonsignore), Spring 2021.

Integrative Paper: *Exploring practitioner's perspectives on barriers to inclusion in participatory design.*

Integrative Paper: Committee Member

Connie Siebold, PhD in Information Studies, UMD (Co-Chairs: Mega Subramaniam, Ana Ndumu), Fall 2023.

Integrative Paper: *iSchools and interdisciplinarity: A syntactic analysis of marketing language.*

Md. Naimul Hoque, PhD in Information Studies, UMD (Chair: Niklas Elmqvist), Winter 2022.

Integrative Paper: *DramatVis Personae: Visual text analytics for avoiding stereotypes in creative writing.*

Sigfried Gold, PhD in Information Studies, UMD (Chair: Wayne Lutters), Summer 2020.

Integrative Paper: *Empirical and semantic data in the construction and validation of value sets: An examination of the real-world analysis of real-world health data.*

Jonathan Brier, PhD in Information Studies, UMD (Chair: Brian Butler), Spring 2019.

Integrative Paper: *Reframing the research of Citizen Science as an ecological system: A lens grounded in recruitment.*

III.C.4. Post-doctoral

III.C.5. Other Directed Research (*e.g. K-12 Interactions*)

III.D. Mentorship

III.D.1. Junior Faculty

III.D.2. Other

III.E. Advising: Other than Directed Research

III.E.1. Undergraduate

III.E.2. Master's

III.E.3. Doctoral

III.E.4. Post-doctoral

III.E.5. Other Advising Activities

III.F. Professional and Extension Education

III.F.1. Professional Programs Established

III.F.2. Major Extension Programs

III.F.3. Workshops

2021 Small Business Wiki Training, Prince George's County Memorial Library System (PGCMLS) Workforce and Community Development Working Group (served: 80+ library staff).

III.F.4. Guest Lectures (*Presented in traditional classes or for someone else's program*)

Search Strategies and Infrastructure for Academic Literature. *LBSC602: Serving Information Needs*, UMD, Fall 2021.

Crowd Computing, *Computing for Social Good*, Carnegie Mellon University, Fall 2017.

Strategies for Literature Reviewing, *Process and Theory*, Carnegie Mellon University, Fall 2017.

Creative Cognition, *Cognitive Psychology*, University of Pittsburgh, Summer 2016.

Mental Imagery, *Cognitive Psychology*, University of Pittsburgh, Fall 2013.

Creative Cognition, *Cognitive Psychology*, University of Pittsburgh, Summer 2013.

- III.F.5. Extension Signature Programs
- III.F.6. Extension Programs of Distinction
- III.F.7. Other

III.G. Contribution to Learning Outcomes Assessment

III.H. Other Teaching Activities

III.I. Teaching Awards

Instructional Innovation Award, UMD College of Information, Spring 2024. For innovations in INST126

Nominated: Instructional Innovation Award, UMD College of Information, Spring 2023. For innovations in INST801

IV. Service and Outreach

IV.A. Editorships, Editorial Boards, and Reviewing Activities

- IV.A.1. Editorships
- IV.A.2. Editorial Boards
- IV.A.3. Reviewing Activities for Journals and Presses

Frequent

Design Studies
2016–2023 (6 reviews)

Thinking & Reasoning
2014–2023 (4 reviews)

Occasional

ACM Transactions on Computer Human Interaction (TOCHI), ACM Transactions on Social Computing, ACM Transactions on Interactive Intelligent Systems, Thinking & Reasoning, Creativity Research Journal, Human-Computer Interaction, ASME Artificial Intelligence in Engineering Design and Manufacturing, Cognitive Science, Journal of Mechanical Design, Journal of

Engineering Design, Memory & Cognition, Group Decision and Negotiation, Journal of Computer-Mediated Communication, Journal of Cognitive Psychology, Spanish Journal of Psychology

IV.A.4. Reviewing Activities for Agencies and Foundations

Panelist, *National Science Foundation IIS Core*, 2025

Panelist, *Canada Natural Science and Engineering Research Council (NSERC)*, 2021

IV.A.5. Reviewing Activities for Conferences

Frequent

ACM Conference on Computer-Supported Cooperative Work and Social Computing (CSCW)
2018–present (50 reviews)

ACM Conference on Human Factors in Computing Systems (CHI)
2019–present (40 reviews)

ACM Conference on Creativity and Cognition (C&C)
2019–present (27 reviews)

ACM Symposium on User Interface Software and Technology (UIST)
2019–present (4 reviews)

Occasional

ACM SIGIR Conference on Human Information Interaction and Retrieval (CHIIR), ACM Conference on Collective Intelligence, Hawaii International Conference on System Sciences, International Joint Conference on Artificial Intelligence, International Conference on Case-Based Reasoning, Design Computing and Cognition, Annual Meeting of the Cognitive Science Society

IV.A.6. Other

IV.B. Committees, Professional & Campus Service

IV.B.1. Campus Service – Department

IV.B.2. Campus Service – College

Assistant Director, *Doctoral Program, UMD College of Information*, Fall 2022–present.

Assist with primary duties of running doctoral program. Primary responsibility for enhancing PhD student mentoring, including reviewing and analyzing iSchool best practices in PhD student mentoring, developing expectations for mentorship, developing opportunities to disseminate guidelines for mentoring, and communicating with Graduate School on issues related to student mentorship.

Key personal accomplishments: Led community input and drafting of College statement of mentoring values, developed formal guidance for co-advising and switching advisors.

Committee Member, *Communication Advisory Committee, UMD College of Information*, Spring 2021–Spring 2022.

Assist with connecting communications team to relevant faculty, staff, and student expertise, and developing strategy for communicating this expertise in public media.

Committee Member, *Tenure-Track Faculty Hiring Committee, UMD College of Information*, Fall 2021.

Committee member for search committee for Open-Rank Tenure-Track Faculty position. Reviewed applications, chose and discussed who to interview, co-created interview questions, interviewed candidates, co-wrote initial assessment of final proposed candidates.

Committee Member, *Doctoral Program Committee, UMD College of Information*, Fall 2020–Spring 2022.

Assist with program evaluation and amendments to curriculum and program, as needed. Assist with review of key doctoral program milestones.

Key personal accomplishments: Led improvements to Integrative Paper process, and developed procedure for proposing new Special Topics courses.

Committee Member, *College Advisory Committee, UMD College of Information*, Spring 2020.

Serve as liaison between faculty and Dean for College-wide issues.

Committee Member, *Human Computer Interaction Masters (HCIM) Program Committee, UMD College of Information*, Fall 2018–Spring 2019.

Assist with program evaluation and amendments to curriculum and program, as needed. Assist with review of applications for program.

Key personal accomplishments: Streamlined application review process, reviewed and instituted improvements to student access to and integration with research.

Committee Member, *Research Centers and Collaboration Committee, UMD College of Information*, Fall 2018–Spring 2019.

Assist with activities for fostering research collaboration and excellence at the College, including review and dissemination of seed research funds.

Committee Member, *Merit Pay Committee, UMD College of Information*, Spring 2018.

Assist with merit review of faculty.

IV.B.3. Campus Service – University

IV.B.4. Campus Service – Special Administrative Assignment

IV.B.5. Campus Service – Other

Committee Member, *Tenure-Track Faculty Hiring Committee for Artificial Intelligence Interdisciplinary Institute at Maryland (AIM)*, Spring 2025.

Review and interview faculty candidates for campus-wide search for TTK faculty for AIM.

Associate Director, *Human Computer Interaction Lab (HCIL)*, Fall 2021–present.

Co-develop high level strategy and facilitate operations of lab to support research and collaborations.

IV.B.6. Inter-institutional and Regional (*e.g. inter-library agencies, regional consortia*)

IV.B.7. Offices and Committee Memberships

IV.B.8. Leadership Roles in Meetings and Conferences

Chair or Co-Chair

Papers Program, *ACM Conference on Creativity and Cognition*
2024

Workshops and Tutorials, *ACM Conference on Creativity and Cognition*
2022, 2023

Blue Sky Ideas Papers Track, *AAAI Conference on Human Computation*
2021

Demos, *ACM Conference on Computer-Supported Cooperative Work and Social Computing*
2019

Papers Program Committee: Associate Chair

Note: In top-tier ACM conferences, Papers Program Committee Associate Chair service is equivalent in duties and stature to editorial board members at a journal.

ACM Conference on Human Factors in Computing Systems (CHI)
2019, 2021, 2023

ACM Conference on Creativity and Cognition (C&C)
2015, 2017, 2019, 2022

ACM Conference on Computer-Supported Cooperative Work and Social Computing (CSCW)
Note: since 2020, the CSCW conference runs two submission cycles per year
2018, 2020 (January Cycle), 2020 (June Cycle)

IV.B.9. Other Non-University Committees, Memberships, Panels, etc.

IV.B.10. Other

IV.C. External Service and Consulting

IV.C.1. Community Engagements, Local, State, National, International

Public Webinar with Prince George's County Memorial Library System (PGCMLS), "*Library Knowledge Extensions: A new small business resource*", October 20, 2021.

IV.C.2. International Activities

IV.C.3. Corporate and Other Board Memberships

IV.C.4. Entrepreneurial Activities

IV.C.5. Consultancies (*to local, state and federal agencies; companies; organizations*)

EC3 Research consultant, *Lateral.io / coordination.network*, Summer 2022–present
<https://www.lateral.io/>

Advise and collaborate on translating insights from research on digital libraries and collective knowledge synthesis to tools for literature analysis and coordinating research and development planning.

- Helped design data structure for shared knowledge graph to facilitate decentralized coordination between scientists and funders in biotechnology, assisted with receipt of \$10,857 seed grant to facilitate distribution of the graph <https://www.lateral.io/desci>
- Shaped design of new open-source platform for AI-assisted research and development planning with knowledge graphs: <https://www.coordination.network/>

EC2 Research consultant, *Deep Science Ventures*, Spring 2022–present
<https://deepscienceventures.com/>

Advise and collaborate on translating insights from research on digital libraries, collective knowledge synthesis, analogical innovation, and human-AI interaction, to tools and workflows for research and development planning.

- Shaped formalized workflow for research and development planning with knowledge graphs (using SW1): <https://deepscienceventures.com/content/the-outcomes-graph-2>

EC1 Research consultant, *ConservationX Labs*, Spring 2018–Fall 2019
<https://conservationxlabs.com/>

Advise and collaborate on internal research projects for fostering cross-disciplinary collaboration to design new innovations for addressing conservation problems

IV.C.6. Other

IV.D. Non-Research Presentations

IV.D.1. Outreach Presentations

IV.D.2. Other

IV.E. Media Contributions

IV.E.1. Internet

IV.E.2. TV

IV.E.3. Radio

IV.E.4. Digital Media

IV.E.5. Print Media

IV.E.6. Blogs

IV.E.7. Feeds

IV.E.8. Other

IV.F. Community & Other Service

IV.G. Service Awards and Honors

V. Public Engagement, Scholarship and Practice

- PE8 Primary guest on podcast, *Deep Random Talks: Data Structure for Knowledge = Language Models + Structured Data – DRT S2E13*, January 31, 2023.
<https://www.youtube.com/watch?v=ICZ0ShZ6ud0>
- PE7 Panelist, *Linking Your Thinking's "Idea Exchange" Conference: The Research Roundtable*, September 8, 2022.
<https://lu.ma/mczkwf8u>
- PE6 Primary guest on podcast, *Futurati Podcast, Ep. 49: Joel Chan on metascience, creativity, and tools for thought*, August 27, 2021.
https://www.youtube.com/watch?v=KT-I_6TERKk
- PE5 Panelist, *Roam Session 1 - Maximizing Discoverability in Your Graph*, February 27, 2021.
<https://www.youtube.com/watch?v=47A0gK7Vo8E>
- PE4 Primary guest on video tour, *Flexible Systems for Synthesis in Roam Research with Professor Joel Chan*, December 27, 2020.
<https://www.youtube.com/watch?v=JoCjpTXCklw>
- PE3 Primary guest on podcast, *RoamFM Podcast, Joel Chan: Knowledge Synthesis, Analog Media and Zettel Questions*, October 11, 2020.
<https://thatsthenorm.com/joel-chan-knowledge-synthesis-transcript/>
- PE2 Primary interviewee, *Roam Tour #1: Professor Joel Chan- Zettelkasten and Evergreen Notes for Generative Thought*, April 25, 2020.
<https://www.youtube.com/watch?v=A6PIrVZoZAk>
- PE1 Primary guest on podcast, *IdeaMachines Podcast, Analogies, Context, and Zettleconversation with Joel Chan [Idea Machines #24]*, March 17, 2020.
<https://ideamachinespodcast.com/joel-chan>