

GONZALO RAMOS, Ph.D.

Human-Centered Computing, Design and Artificial Intelligence

gonzo.ramos@gmail.com

[Google Scholar](#) | [LinkedIn](#)

Research Profile

I am an international scholar in **Human-Centered Artificial Intelligence and Interactive Systems**, with nearly two decades of experience leading research programs in industry research laboratories (Microsoft Research, Amazon) and contributing foundational work to the global academic HCI and AI communities. My current research focuses on the **design and empirical study of AI-mediated systems that extend human cognition while preserving agency, reasoning, and accountability**, particularly in knowledge-intensive and creative work.

Rather than treating AI as a technical capability, my work frames it as **interactive and cognitive infrastructure**: systems whose long-term societal impact depends on interaction design, system architecture, and sustained patterns of use. This perspective shifts attention from narrow system metrics to how AI systems shape reasoning, expertise, and accountability.

Throughout my career, I have led world-class research programs at the intersection of human-computer interaction, interactive machine learning, and AI-mediated tools for thought. I study AI as an interactive medium that introduces new control surfaces, feedback loops, and representations through which people reason, ideate, and decide. My work combines **system building, interaction design, and longitudinal empirical evaluation**, using concrete artifacts both as research contributions and as instruments for studying cognitive and social dynamics in real-world practice.

This research has resulted in **peer-reviewed publications in leading venues (h-index: 38, 6,229 citations)**, **over 50 patents**, and a portfolio of widely cited interactive systems that have influenced subsequent research directions and informed real-world deployment. Collectively, these contributions demonstrate a consistent research trajectory focused on aligning advanced AI technologies with human goals, values, and institutional contexts, and on producing evidence that can guide responsible adoption at scale.

Academic and Research Appointments

Microsoft Research, Redmond, WA, USA

Principal Researcher (2019–2025)

Senior Researcher (2016–2019)

- Scientific leadership of research programs in Human-Centered AI, including agenda-setting, supervision of researchers, postdoctoral fellows, doctoral-level interns, and cross-organizational collaborations.
- Led the design and development of end-to-end interactive AI systems combining machine learning, interface design, and empirical evaluation, many of which influenced product roadmaps and led to patents.
- Prepared and secured internal and cross-organizational funding supporting research infrastructure and personnel.
- Mentored doctoral-level researchers whose work resulted in top-tier publications, patents, and subsequent academic appointments.
- Active contribution in the scientific community through workshops, program committee participation, mentoring initiatives, and service.

Amazon – Special Projects, Seattle, WA, USA

Senior UX Scientist (2015–2016)

- Leadership of user-centered research and design for an advanced incubation project integrating commerce, mixed reality, hardware, and cloud services.

Amazon – Concept Lab, Seattle, WA, USA

Senior Design Technologist (2013–2015)

- Conducted exploratory and speculative HCI research on novel interaction techniques spanning wearables, IoT, and augmented reality.
- Developed research prototypes informing product concepts and transitions into Amazon product ecosystems.

Microsoft Live Labs / Online Services Division, Bellevue, WA, USA

Scientist (2007–2013)

- Applied research on interactive machine learning, visualization, and novel user interfaces.

- Prototyping and deployment of research systems influencing product direction and user-facing technologies.

Education

Ph.D. in Computer Science, University of Toronto, Canada (2008)

Supervisor: Dr. Ravin Balakrishnan

Thesis: *Pressure-Sensitive Pen Interactions*

M.Sc. in Computer Science, University of Toronto, Canada (2001)

Supervisor: Dr. Wayne Enright

Thesis: *Scattered Data Interpolation Using an Alternate Differential Equation Interpolant*

Selected Publications

Selected publications illustrating sustained scholarly contributions aligned with the Canada Impact+ priority area of Advanced Digital Technologies (Artificial Intelligence), emphasizing human-centered AI, interactive systems, and longitudinal studies of AI-mediated work. Full list of publications provided at end of this document.

Human-centered AI/ML, Tools for Thought

Marquardt, N., Roseway, A., Romat, H., Panda, P., Pahud, M., Ramos, G. A., Drucker, S.M., Wilson, A.D., Hinckley, K., & Riche, N. (2025). ImaginationVellum: Generative-AI Ideation Canvas with Spatial Prompts, Generative Strokes, and Ideation History. Proceedings of the 38th Annual ACM Symposium on User Interface Software and Technology.

Palani, S., & Ramos, G. A. (2024). *Evolving roles and workflows of creative practitioners in the age of generative AI*. Proceedings of the ACM Conference on Creativity & Cognition 2024.

Ramos, G. A., Rachatasumrit, N., Suh, J., Ng, R., & Meek, C. (2022). *ForSense: Accelerating online research through sensemaking integration and machine research support*. ACM Transactions on Interactive Intelligent Systems, 12(1), Article 4.

Tankelevitch, L., Glassman, E.L., He, J., Kittur, A., Lee, M., Palani, S., Sarkar, A., Ramos, G. A., Rogers, Y., & Subramonyam, H. (2025). Understanding, Protecting, and Augmenting Human Cognition with Generative AI: A Synthesis of the CHI 2025 Tools for Thought Workshop. ArXiv, abs/2508.21036.

Interactive Machine Learning and Teaching

Ng, F. Y., Suh, J., & Ramos, G. A. (2020). *Understanding and supporting knowledge decomposition for machine teaching*. Proceedings of the ACM Designing Interactive Systems Conference.

Ramos, G. A., Meek, C., Simard, P.-Y., Suh, J., & Ghorashi, S. (2020). *Interactive machine teaching: A human-centered approach to building machine-learned models*. Human-Computer Interaction, 35(5-6), 413-451.

Suh, J., Ghorashi, S., Ramos, G. A., Chen, N.-C., Drucker, S. M., Verwey, J., & Simard, P.-Y. (2019). *AnchorViz: Facilitating semantic data exploration and concept discovery for interactive machine learning*. ACM Transactions on Interactive Intelligent Systems, 10(1), Article 7.

Yang, Q., Suh, J., Chen, N.-C., & Ramos, G. A. (2018). *Grounding interactive machine learning tool design in how non-experts actually build models*. Proceedings of the ACM Designing Interactive Systems Conference.

Interaction & Visualization

Dragicevic, P., Ramos, G. A., Bibliowicz, J., Nowrouzezahrai, D., Balakrishnan, R., & Singh, K. (2008). *Video browsing by direct manipulation*. Proceedings of the ACM Conference on Human Factors in Computing Systems.

Ramos, G. A., Robertson, G.G., Czerwinski, M., Tan, D.S., Baudisch, P., Hinckley, K., & Agrawala, M. (2006). *Tumble! Splat! helping users access and manipulate occluded content in 2D drawings*. International Working Conference on Advanced Visual Interfaces.

Ramos, G. A., Cockburn, A., Balakrishnan, R., & Beaudouin-Lafon, M. (2007). *Pointing lenses: Facilitating stylus input through visual- and motor-space magnification*. Proceedings of the ACM Conference on Human Factors in Computing Systems.

AI & Mental health / workplace longitudinal work

Chandra, M., Naik, S., Ford, D., Okoli, E., Choudhury, M.D., Ershadi, M., Ramos, G. A., Hernandez, J., Bhattacharjee, A., Warreth, S., & Suh, J. (2024). *From Lived Experience to Insight: Unpacking the Psychological Risks of Using AI Conversational Agents*. Proceedings of the 2025 ACM Conference on Fairness, Accountability, and Transparency.

Suh, J., Pendse, S.R., Lewis, R., Howe, E., Saha, K., Okoli, E., Amores, J., Ramos, G. A., Shen, J., Borghouts, J., Sharma, A.,

Pedrelli, P., Friedman, L., Jackman, C., Benhalim, Y., Ong, D.C., Segal, S., Althoff, T., & Czerwinski, M. (2024). Rethinking technology innovation for mental health: framework for multi-sectoral collaboration. *Nature Mental Health*, 2, 478 - 488.

Research Systems (Selected)

Research Systems and Prototypes

These systems combine **system building**, **theoretical grounding**, and **empirical evaluation**, to form a **coherent corpus of research artifacts** that operationalize hypotheses about AI/ML-mediated work and cognition.

ForSense (2020)

ForSense is an interactive sensemaking system that integrates information foraging, machine research support, and synthesis to accelerate online research workflows. Associated with (Rachatasumrit, N., et al., 2021), (Ramos, G. A. et al., 2022), and patent US-11887011-B2.

GhostWriter (2023)

GhostWriter is a GenAI-enhanced writing system that through explicit and implicit teaching interactions supports personalization, and enhanced agency over system outputs in writing workflows. System influenced product roadmaps at Microsoft M365 team. Associated with (Yeh, C. & Ramos, G. A., 2024) and patent US-2025217588-A1.

Orchid (2023)

Orchid is a GenAI-enhanced notebook that shows how personal contextual information can be structured, persisted, and manipulated to support creative practice and sensemaking across tasks and time. I led the design and implementation of the system. System influenced product roadmap at CoPilot team. Associated with (Palani, S. & Ramos, G. A., 2025), patent US-2025238597-A1.

Pearl (2022)

Pearl is a technology probe that explores how ML can support people's goals by reflective practices on their own data through machine

teaching, personal journaling, and machine hypothesis generation. Associated with (Jörke, M., et al., 2023).

Interactive Machine Teaching Systems (2017-2019)

A series of interactive machine teaching systems (PICL, Pixie, AnchorViz) developed to support non-expert users in building, understanding, and debugging machine-learned models. These systems investigate interaction techniques for data selection, concept decomposition, error discovery, and feedback. Associated with (Yang, Q., et al., 2018), (Wall, E. et al., 2019), (Chen, N.-C., et al., 2018), (Sultanum, N., et al., 2020), and (Ramos, G. A., et al. 2020).

Doctoral Supervision and Research Mentoring

Over fifteen years in industry research, I have supervised and mentored doctoral-level researchers through the complete research lifecycle—from problem formulation and system design through empirical evaluation, peer-reviewed publication, and patent development. This sustained commitment to research training has contributed to developing the next generation of human-centered AI researchers.

Research Intern Supervision

I have directly supervised 13 doctoral research interns from leading institutions including Carnegie Mellon University, Georgia Institute of Technology, Stanford University, Harvard University, and University of Toronto. These supervision experiences span diverse research areas including interactive machine learning, AI-powered creativity tools, sensemaking systems, and human-AI interaction paradigms. This work has resulted in 15 peer-reviewed publications in top-tier venues (CHI, DIS, UIST) and 7 patents. Several former interns have advanced to tenure-track faculty positions and senior research roles in industry.

Doctoral Committee Service

I have served on PhD dissertation committees examining work on human-AI systems for domain-specific applications and interactive machine learning methodologies, contributing external perspectives from my research practice.

Thesis Review and Examination

I have provided external thesis review and examination for doctoral work on AI alignment in design contexts, interactive machine teaching systems, and collaborative approaches to machine learning, contributing to research programs at institutions including Aalto University and Université Paris-Saclay.

Teaching And Scientific Dissemination

I have contributed to graduate- and doctoral-level teaching and scientific dissemination in Human-Computer Interaction, Human-Centered AI, and interactive systems. In addition to invited lectures and teaching activities, I have delivered numerous peer-reviewed oral presentations at major international conferences. These activities complement formal graduate supervision and reflect readiness to contribute to undergraduate and graduate teaching in computing, AI, and human-centered systems.

- **Lecturer**, ACM Europe School – 2024 Summer School on Computational Interaction, University of Luxembourg.

Delivered intensive graduate-level instruction on interactive systems, human-centered AI, and research-through-design methodologies.

- **Guest Lecturer** for MSc and PhD courses in Human-Computer Interaction, Artificial Intelligence, and Interactive and Intelligent Systems at institutions including the University of Washington and Northwestern University.
- **Invited Speaker** in research seminars and advanced technical lectures at Microsoft Research, presenting work on interactive system design, prototyping practices, and generative-AI-based tools for thought.

Research Translation and Intellectual Property

My research has produced [50+ patents](#) across Microsoft and Amazon over 17 years, translating fundamental HCI, data visualization, and AI/ML research into deployed technologies. Contributions include interactive data exploration systems enabling non-experts to analyze complex datasets, AI-powered natural language interfaces, and novel interaction techniques.

Equity, Diversity, and Leadership Service

Board Member, Computing Research Association - WP (2022–present)

Contributed to national initiatives aimed at widening participation and improving equity in computing research and education, including co-leading CRA presence at the Richard Tapia Conference.

Chair, Microsoft Research Ada Lovelace Fellowship Program (2018–2021)

Led an international selection committee awarding competitive graduate fellowships to underrepresented doctoral students in computing.

Academic and Professional Service

Sustained program committee, associate chair, and reviewing service for leading venues in human-computer interaction and AI, alongside ongoing leadership and advisory roles supporting research quality, community stewardship, and equity initiatives in computing research.

Associate Chair (AC):

ACM DIS: 2024–2025; ACM CHI: 2023

Peer-reviewer Service:

ACM CHI: 2019–2022, 2025; ACM DIS: 2019, 2025; ACM UIST: 2018–2020, 2025; ACM CSCW: 2023; ACM IUI: 2018; ACM IMWUT: 2020–2021; EuroVis: 2017; Graphics Interface: 2019

Full Publications

Peer-Reviewed Journal Articles (total: 10)

- Hernandez, J., Swain, V.D., Suh, J., McDuff, D.J., Amores, J., **Ramos, G. A.**, Rowan, K., Houck, B., Iqbal, S., & Czerwinski, M. (2025). Triple Peak Day: Work Rhythms of Software Developers in Hybrid Work. *IEEE Transactions on Software Engineering*, 51, 344–354.
- Sefidgar, Y. S., Jörke, M., Suh, J., Saha, K., Iqbal, S. T., **Ramos, G. A.**, & Czerwinski, M. (2024). *Improving work–nonwork balance with data-driven implementation intention and mental contrasting*. *Proceedings of the ACM on Human-Computer Interaction*, 8 (CSCW1), Article 74, 1–29.

- Suh, J., Pendse, S.R., Lewis, R., Howe, E., Saha, K., Okoli, E., Amores, J., **Ramos, G. A.**, Shen, J., Borghouts, J., Sharma, A., Pedrelli, P., Friedman, L., Jackman, C., Benhalim, Y., Ong, D.C., Segal, S., Althoff, T., & Czerwinski, M. (2024). Rethinking technology innovation for mental health: framework for multi-sectoral collaboration. *Nature Mental Health*, 2, 478 - 488.
- **Ramos, G. A.**, Rachatasumrit, N., Suh, J., Ng, R., & Meek, C. (2022). *ForSense: Accelerating online research through sensemaking integration and machine research support*. *ACM Transactions on Interactive Intelligent Systems*, 12(1), Article 4.
- **Ramos, G. A.**, Meek, C., Simard, P.-Y., Suh, J., & Ghorashi, S. (2020). *Interactive machine teaching: A human-centered approach to building machine-learned models*. *Human-Computer Interaction*, 35(5-6), 413-451.
- Suh, J., Ghorashi, S., **Ramos, G. A.**, Chen, N.-C., Drucker, S. M., Verwey, J., & Simard, P.-Y. (2019). *AnchorViz: Facilitating semantic data exploration and concept discovery for interactive machine learning*. *ACM Transactions on Interactive Intelligent Systems*, 10(1), Article 7.
- Dörk, M., Riche, N. H., **Ramos, G. A.**, & Dumais, S. T. (2012). *PivotPaths: Strolling through faceted information spaces*. *IEEE Transactions on Visualization and Computer Graphics*, 18(12), 2709-2718.
- Alper, B., Riche, N. H., **Ramos, G. A.**, & Czerwinski, M. (2011). *Design study of LineSets, a novel set visualization technique*. *IEEE Transactions on Visualization and Computer Graphics*, 17(12), 2259-2267.
- Cockburn, A., Quinn, P., Gutwin, C., **Ramos, G. A.**, & Looser, J. (2011). *Air pointing: Design and evaluation of spatial target acquisition with and without visual feedback*. *International Journal of Human-Computer Studies*, 69(6), 401-414.
- **Ramos, G. A.**, Hinckley, K., Wilson, A., & Sarin, R. (2009). *Synchronous gestures in multi-display environments*. *Human-Computer Interaction*, 24(1-2), 117-169.

Peer-Reviewed Conference Papers (total: 33)

- Nepal, S., Hernandez, J., Massachi, T., Rowan, K., Amores, J., Suh, J., **Ramos, G. A.**, Houck, B., Iqbal, S. T., & Czerwinski, M. P. (2025). From user surveys to telemetry-driven AI agents: Exploring the potential of personalized productivity solutions. Proceedings of the ACM on Human-Computer Interaction, 9(7), Article CSCW227
- Marquardt, N., Roseway, A., Romat, H., Panda, P., Pahud, M., **Ramos, G. A.**, Drucker, S.M., Wilson, A.D., Hinckley, K., & Riche, N. (2025). ImaginationVellum: Generative-AI Ideation Canvas with Spatial Prompts, Generative Strokes, and Ideation History. Proceedings of the 38th Annual ACM Symposium on User Interface Software and Technology.
- Chandra, M., Naik, S., Ford, D., Okoli, E., Choudhury, M.D., Ershadi, M., **Ramos, G. A.**, Hernandez, J., Bhattacharjee, A., Warreth, S., & Suh, J. (2024). From Lived Experience to Insight: Unpacking the Psychological Risks of Using AI Conversational Agents. Proceedings of the 2025 ACM Conference on Fairness, Accountability, and Transparency.
- Palani, S., & **Ramos, G. A.** (2024). *Evolving roles and workflows of creative practitioners in the age of generative AI*. Proceedings of the ACM Conference on Creativity & Cognition.
- Jörke, M., Sefidgar, Y. S., Massachi, T., Suh, J., & **Ramos, G. A.** (2023). *Pearl: A technology probe for machine-assisted reflection on personal data*. Proceedings of the ACM International Conference on Intelligent User Interfaces.
- Song, H., **Ramos, G. A.**, & Bodík, P. (2023). Evaluating how interactive visualizations can assist in finding samples where and how computer vision models make mistakes. 2024 IEEE 17th Pacific Visualization Conference (PacificVis), 307-312.
- Chou-Ren, D., Winters, M., Hernandez, J., McDuff, D., Suh, J., Rodriguez, V., **Ramos, G. A.**, & Czerwinski, M. (2023). Do you even need sensors? Synthetic biomusic as an empathic technology. In 2023 11th International Conference on Affective Computing and Intelligent Interaction (ACII) (pp. 1-8). IEEE
- Morshed, M. B., Hernandez, J., McDuff, D. J., Suh, J., Howe, E. S., Rowan, K., Abdin, M. I., **Ramos, G. A.**, Tran, T., & Czerwinski, M.

(2022). *Advancing the understanding and measurement of workplace stress in remote information workers from passive sensors and behavioral data*. Proceedings of the International Conference on Affective Computing and Intelligent Interaction.

- Howe, E. S., Suh, J. H., Morshed, M. B., McDuff, D. J., Rowan, K., Hernandez, J., Abdin, M. I., **Ramos, G. A.**, Tran, T., & Czerwinski, M. (2022). *Design of digital workplace stress-reduction intervention systems: Effects of intervention type and timing*. Proceedings of the ACM Conference on Human Factors in Computing Systems.
- Rachatasumrit, N., **Ramos, G. A.**, Suh, J., Ng, R., & Meek, C. (2021). *ForSense: Accelerating online research through sensemaking integration and machine research support*. Proceedings of the ACM International Conference on Intelligent User Interfaces.
- Narechania, A., Fourney, A., Barik, T., & **Ramos, G. A.** (2021). *DIY: Assessing the correctness of natural language to SQL systems*. Proceedings of the ACM International Conference on Intelligent User Interfaces.
- Schnabel, T., **Ramos, G. A.**, & Amershi, S. (2020). *"Who doesn't like dinosaurs?" Finding and eliciting richer preferences for recommendation*. Proceedings of the ACM Conference on Recommender Systems.
- Sultanum, N., Ghorashi, S., Meek, C., & **Ramos, G. A.** (2020). *A teaching language for building object detection models*. Proceedings of the ACM Designing Interactive Systems Conference.
- Ng, F. Y., Suh, J., & **Ramos, G. A.** (2020). *Understanding and supporting knowledge decomposition for machine teaching*. Proceedings of the ACM Designing Interactive Systems Conference.
- Wall, E., Ghorashi, S., **Ramos, G. A.**, & Drucker, S. M. (2019). *Using expert patterns in assisted interactive machine learning: A study in machine teaching*. Proceedings of the IFIP TC13 International Conference on Human-Computer Interaction.
- Yang, Q., Suh, J., Chen, N.-C., & **Ramos, G. A.** (2018). *Grounding interactive machine learning tool design in how non-experts actually build models*. Proceedings of the ACM Designing Interactive Systems Conference.

- Chen, N.-C., Suh, J., Verwey, J., **Ramos, G. A.**, Drucker, S. M., & Simard, P.-Y. (2018). *AnchorViz: Facilitating classifier error discovery through interactive semantic data exploration*. Proceedings of the ACM International Conference on Intelligent User Interfaces.
- Piazza, T., Fjeld, M., **Ramos, G. A.**, Yantaç, A. E., & Zhao, S. (2013). *Holy smartphones and tablets, Batman!: Mobile interaction's dynamic duo*. Proceedings of the Asia-Pacific Conference on Human-Computer Interaction.
- Pongnumkul, S., Wang, J., **Ramos, G. A.**, & Cohen, M. F. (2010). *Content-aware dynamic timeline for video browsing*. Proceedings of the ACM Symposium on User Interface Software and Technology.
- Karlson, A. K., Iqbal, S. T., Meyers, B., **Ramos, G. A.**, Lee, K., & Tang, J. C. (2010). *Mobile taskflow in context: A screenshot study of smartphone usage*. Proceedings of the ACM Conference on Human Factors in Computing Systems.
- Teevan, J., Cutrell, E., Fisher, D., Drucker, S. M., **Ramos, G. A.**, André, P., & Hu, C. (2009). *Visual snippets: Summarizing web pages for search and revisitation*. Proceedings of the ACM Conference on Human Factors in Computing Systems.
- Birnholtz, J. P., Gutwin, C., **Ramos, G. A.**, & Watson, M. (2008). *OpenMessenger: Gradual initiation of interaction for distributed workgroups*. Proceedings of the ACM Conference on Human Factors in Computing Systems.
- Bi, X., Moscovich, T., **Ramos, G. A.**, Balakrishnan, R., & Hinckley, K. (2008). *An exploration of pen rolling for pen-based interaction*. Proceedings of the ACM Symposium on User Interface Software and Technology.
- Dragicevic, P., **Ramos, G. A.**, Bibliowicz, J., Nowrouzezahrai, D., Balakrishnan, R., & Singh, K. (2008). *Video browsing by direct manipulation*. Proceedings of the ACM Conference on Human Factors in Computing Systems.
- **Ramos, G. A.**, Cockburn, A., Balakrishnan, R., & Beaudouin-Lafon, M. (2007). *Pointing lenses: Facilitating stylus input through visual- and motor-space magnification*. Proceedings of the ACM Conference on Human Factors in Computing Systems.

- **Ramos, G. A.**, & Balakrishnan, R. (2007). *Pressure marks*. Proceedings of the ACM Conference on Human Factors in Computing Systems.
- Baudisch, P., Tan, D. S., Collomb, M., Robbins, D. C., Hinckley, K., Agrawala, M., Zhao, S., & **Ramos, G. A.** (2006). *Phosphor: Explaining transitions in the user interface using afterglow effects*. Proceedings of the ACM Symposium on User Interface Software and Technology.
- **Ramos, G. A.**, Robertson, G. G., Czerwinski, M., Tan, D. S., Baudisch, P., Hinckley, K., & Agrawala, M. (2006). *Tumble! Splat! Helping users access and manipulate occluded content in 2D drawings*. Proceedings of the International Working Conference on Advanced Visual Interfaces.
- **Ramos, G. A.**, & Balakrishnan, R. (2005). *Zliding: Fluid zooming and sliding for high precision parameter manipulation*. Proceedings of the ACM Symposium on User Interface Software and Technology.
- Hinckley, K., Baudisch, P., **Ramos, G. A.**, & Guimbreti re, F. (2005). *Design and analysis of delimiters for selection-action pen gesture phrases in Scriboli*. Proceedings of the ACM Conference on Human Factors in Computing Systems.
- Hinckley, K., **Ramos, G. A.**, Guimbreti re, F., Baudisch, P., & Smith, M. (2004). *Stitching: Pen gestures that span multiple displays*. Proceedings of the International Working Conference on Advanced Visual Interfaces.
- **Ramos, G. A.**, Boulos, M., & Balakrishnan, R. (2004). *Pressure widgets*. Proceedings of the ACM Conference on Human Factors in Computing Systems.
- **Ramos, G. A.**, & Balakrishnan, R. (2003). *Fluid interaction techniques for the control and annotation of digital video*. Proceedings of the ACM Symposium on User Interface Software and Technology.

Peer-Reviewed Workshops and Extended Abstracts (total: 4)

- **Ramos, G. A.** (2025) Beyond Efficiency: Reframing GenAI to Align it with the Creative Practice. Presented at the GenAI & Creative Practices Past, Present and Future Conference at the University of Amsterdam. <https://rdtconference.uva.nl/>

- Tankelevitch, L., Glassman, E., He, J., Kazemitabaar, M., Kittur, A., Lee, M., Palani, S., Sarkar, A., **Ramos, G. A.**, Rogers, Y., & Subramonyam, H. (2025). *Tools for Thought: Research and design for understanding, protecting, and augmenting human cognition with generative AI*. In Extended Abstracts of the CHI Conference on Human Factors in Computing Systems, Article 804, 1–8.
- Palani, S., & **Ramos, G. A.** (2024). *Supporting orchestration of GenAI in sensemaking workflows*. Sensemaking Workshop, CHI 2024.
- **Ramos, G. A.**, Suh, J., Ghorashi, S., Meek, C., Banks, R., Amershi, S., Fiebrink, R., Smith-Renner, A., & Bansal, G. (2019). *Emerging perspectives in human-centered machine learning*. In Extended Abstracts of the 2019 CHI Conference on Human Factors in Computing Systems.

Non-Peer-Reviewed Publications (Total: 14)

- Tankelevitch, L., Glassman, E.L., He, J., Kittur, A., Lee, M., Palani, S., Sarkar, A., **Ramos, G. A.**, Rogers, Y., & Subramonyam, H. (2025). Understanding, Protecting, and Augmenting Human Cognition with Generative AI: A Synthesis of the CHI 2025 Tools for Thought Workshop. ArXiv, abs/2508.21036.
- Suh, J., Le, L., Shayegani, E., **Ramos, G. A.**, Amores, J., Ong, D.C., Czerwinski, M., & Hernandez, J. (2025). SENSE-7: Taxonomy and Dataset for Measuring User Perceptions of Empathy in Sustained Human-AI Conversations. ArXiv, abs/2509.16437.
- Chandra, M., Hernandez, J., **Ramos, G. A.**, Ershadi, M., Bhattacharjee, A., Amores, J., Okoli, E., Paradiso, A., Warreth, S., & Suh, J. (2025). *Longitudinal study on social and emotional use of AI conversational agents*. arXiv preprint, arXiv:2504.14112
- Caramiaux, B., Crawford, K., Liao, Q. V., **Ramos, G. A.**, & Williams, J. (2025). *Generative AI and creative work: Narratives, values, and impacts*. arXiv preprint, arXiv:2502.03940.
- Inala, J.P., Wang, C., Drucker, S.M., **Ramos, G. A.**, Dibia, V., Riche, N., Brown, D., Marshall, D., & Gao, J. (2024). Data Analysis in the Era of Generative AI. ArXiv, abs/2409.18475.
- Phang, K., Pradhan, S. S., Ikwuegbu, C., **Ramos, G. A.**, Ford, D., Okoli, E., Chishti, S. M. K., & Suh, J. (2024). *Youth WellTech: A*

global remote co-design sprint for youth mental health technology.
arXiv preprint, arXiv:2401.05824.

- Hernandez, J., Suh, J., Amores, J., Rowan, K., **Ramos, G. A.**, & Czerwinski, M. (2023). *Affective conversational agents: Understanding expectations and personal influences.* arXiv preprint, arXiv:2310.12459.
- Chattopadhyay, S., Feng, Z., Arteaga, E., Au, A., **Ramos, G. A.**, Barik, T., & Sarma, A. (2023). *Make it make sense! Understanding and facilitating sensemaking in computational notebooks.* arXiv preprint, arXiv:2312.11431.
- Park, H., **Ramos, G. A.**, Suh, J., Meek, C., Ng, R., & Czerwinski, M. (2023). FoundWright: A System to Help People Re-find Pages from Their Web-history. arXiv preprint, arXiv:2305.07930.
- Yeh, C., **Ramos, G. A.**, Ng, R., Huntington, A., & Banks, R. (2024). GhostWriter: Augmenting Collaborative Human-AI Writing Experiences Through Personalization and Agency (2023). ArXiv, abs/2402.08855.
- **Ramos, G. A.**, Barraza, R., Dibia, V., & Lo, S. (2024). *The Aleph & other metaphors for image generation.* arXiv preprint, arXiv:2402.07104. Presented at the NeurIPS 2022 Workshop on Human-Centered Artificial Intelligence.
- Mariakakis, A., Chen, S., Nguyen, B. H., Bray, K., Blank, M., Lester, J., Ryan, L., Johns, P., **Ramos, G. A.**, & Roseway, A. (2020). *Project Calico: Wearable chemical sensors for environmental monitoring.* arXiv preprint, arXiv:2006.15292.
- **Ramos, G. A.**, Ng, F. Y., Sultanum, N., Meek, C., Suh, J., & Ghorashi, S. (2019). *Do machine teachers dream of algorithms?* Presented at the NeurIPS 2019 Workshop on Human-Centric Machine Learning.
- Simard, P., Amershi, S., Chickering, D. M., Pelton, A. E., Ghorashi, S., Meek, C., **Ramos, G. A.**, Suh, J., Verwey, J., Wang, M., & Wernsing, J. R. (2017). *Machine teaching: A new paradigm for building machine learning systems.* arXiv preprint, arXiv:1707.06742.

Full Patent Portfolio

AI and Machine Learning Applications - 13 patents

- US-2025238597-A1 (2025): Generative neural network model document modification.
- US-2025217588-A1 (2025): Generative neural network model style guide management.
- US-12008043-B2 (2024): Natural language query processing and debugging.
- US-2023083418-A1 (2023): Machine learning system for the intelligent monitoring and delivery of personalized health and wellbeing tools.
- US-11216861-B2 (2022): Color based social networking recommendations.
- US-10255295-B2 (2019): Automatic color validation of image metadata.
- US-10203847-B1 (2019): Determining collections of similar items.
- US-10186054-B2 (2019): Automatic image-based recommendations using a color palette.
- US-10120880-B2 (2018): Automatic image-based recommendations using a color palette.
- US-10049466-B2 (2018): Color name generation from images and color palettes.
- US-10019143-B1 (2018): Determining a principal image from user interaction.
- US-9679532-B2 (2017): Automatic image-based recommendations using a color palette.
- US-9135719-B1 (2015): Color name generation from images and color palettes.

Interactive Data Systems and Visualization - 16 patents

- US-11887011-B2 (2024): Schema augmentation system for exploratory research.
- US-11803763-B2 (2023): Interactive semantic data exploration for error discovery.
- US-2023281259-A1 (2023): Document re-finding system.
- WO-2017100468-A1 (2017): Interactive points of interest for 3d-representations.
- US-9552129-B2 (2017): Interactive visual representation of points of interest data.

- EP-3108349-A1 (2016): Portals for visual interfaces.
- US-9384216-B2 (2016): Browsing related image search result sets.
- HK-1167913-B (2016): Browsing related image search result sets.
- US-8773424-B2 (2014): User interfaces for interacting with top-down maps of reconstructed 3-D scenes".
- US-8359279-B2 (2013): "Assisted clustering.
- US-2012229467-A1 (2012): Set visualizations.
- US-2011225541-A1 (2011) Interactive representation of clusters of geographical entities.
- WO-2011112395-A1 (2011): Map spotlights.
- US-2011187704-A1 (2011): Generating and displaying top-down maps of reconstructed 3-d scenes.
- US-2010257019-A1 (2010): Associating user-defined descriptions with objects.
- US-2010073398-A1 (2010): Visual summarization of web pages.

Human-Computer Interaction - 22 *patents*

- US-11670051-B1 (2023): Augmenting transmitted video data.
- US-10950049-B1 (2021): Augmenting transmitted video data.
- US-10943396-B1 (2021): Synchronizing transmitted video data and enhancements.
- US-10417356-B1 (2019): Physics modeling for interactive content.
- US-10008021-B2 (2018): Parallax compensation.
- US-9959437-B1 (2018): Ordinary objects as network-enabled interfaces.
- US-D803868-S (2017): Display screen or portion thereof with an animated graphical user interface.
- US-D803867-S (2017): Display screen or portion thereof with an animated graphical user interface.
- US-9715865-B1 (2017): Forming a representation of an item with light.
- US-9563326-B2 (2017): Situation-aware presentation of information.

- US-9406153-B2 (2016): Point of interest (POI) data positioning in image.
- US-D761845-S (2016): Display screen or portion thereof with an animated graphical user interface.
- US-9342998-B2 (2016): Techniques to annotate street view images with contextual information.
- US-2015379168-A1 (2015): Techniques for simulating kinesthetic interactions.
- US-8831380-B2 (2014): Viewing media in the context of street-level images.
- US-2014164988-A1 (2014): Immersive view navigation.
- US-2012331009-A1 (2012): Map editing with little user input.
- US-2010080489-A1 (2010): Hybrid Interface for Interactively Registering Images to Digital Models.
- US-7663620-B2 (2010): Accessing 2D graphic content using axonometric layer views.
- US-7636794-B2 (2009): Distributed sensing techniques for mobile devices.
- US-7523405-B2 (2009): "Displaying 2D graphic content using depth wells.
- US-7454717-B2 (2008): Delimiters for selection-action pen gesture phrases.

References

Available upon request.