# Andrew Kuznetsov, PhD NRP

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## RESEARCH INTERESTS

- **Teamwork and Cognitive Assistance** *(Human-Centered AI, LLM/VLM Finetuning, Agent Orchestration)*
- **Collaborative Care & Sensemaking** *(Technical Systems, Mixed Methods Analysis, User/Team Studies)*
- **Prehospital and Out-Of-Hospital Care** *(Chronic/Acute Care, Future Care Systems, Care AI)*

## SUMMARY

- **PhD Thesis** *Lightweight and Deployable Context Mediation for Sensemaking Tool Support*; 7+ years developing systems, experiments, and methodologies for studying context mediation to support task productivity and collaboration.
- **Academic Research** *(Human-Computer Interaction, Organizational Behavioral Theory, Prehospital Emergency Medicine)*; 10+ publications in CHI, UIST, CI, AoM, OrgSci, NAEMSP, EMSWorld.
- **Technical Expertise** *(AI/ML Development, Mixed Methods User Research, Healthcare Data Science)*; Maintain a wide set of skills relevant to prototyping, developing, and evaluating technical systems. Experienced with full stack AI/ML and technical development, AI/ML dataset creation, qual and quant user research (e.g. user/field/interview/survey/log data studies), data science workflows, and healthcare EHR/ePCR ETL.

## EDUCATION

**Carnegie Mellon University** | Ph.D. Human-Computer Interaction *(CMLH Fellow)* 2025
*Mentors:* Aniket Kittur (SCS; HCII), Anita Woolley (Tepper; OBT)

**University of Pittsburgh** | NRP Nationally Registered Paramedic *(PEMF Paramedic Education Scholar)* 2023
*Center for Emergency Medicine*

**University of Illinois Urbana-Champaign** | B.S. Computer Science 2018
*Mentors:* Aditya Parameswaran, Brian Bailey

## PROFESSIONAL EXPERIENCE

**Research Scientist** | Healthy Home Lab, University of Pittsburgh *(👥 Y. Choi)* 2025 – Current
- Develop technology and science for coordination support systems for at-home informal caregiving networks.

**Research Scientist** | Emerald Lab, University of Pittsburgh *(👥 F. Guyette, D. Salcido)* 2025 – Current
- Develop technology and science for prehospital care providers and systems, focusing on trauma resuscitation.

**Research Lead** | Robust Teaming Project, Carnegie Mellon University *(👥 A. Woolley)* 2022 – Current
- Direct research effort to develop and evaluate novel AI collaboration support systems in both virtual and physical spaces, implemented in the domain of respite care integration in homecare networks.
- Lead the technical development of AI evaluation systems, methodologies, experimental studies, and support system prototypes; deployed large-scale computational social science experiments (3,000+ online participants) and lab, field tests of prototypes in collaboration with Dr. Yong Choi at the Healthy Home Laboratory at University of Pittsburgh.
- **Published 3+ research papers** in organizational science venues on impacts of interventions on affective commitment, psychological safety, warmth perceptions, and collective memory systems.

**Research Collaborator** | ESO Solutions *(👥 D. Kupas)* 2023 – Current
- Collaborate with ESO Solutions Research Team and Dr. Douglas Kupas to validate and characterize trauma triage systems in modern patient cohorts.
- **Published 3 research manuscripts** in prehospital emergency medicine venues, journal article in preparation.

**Search Planner** | Appalachian Search Rescue Conference (ASRC) Remote Support Corps 2023 – Current
- Support the planning operations of ground search efforts in the Appalachian area.

**Research Scientist Intern** | Google Research *(👥 GSR Attention Team)* June – August 2024
- Developed large (>10k tasks) datasets of complex tasks for human-gaze vision-language (VLM) model training.

**Research Scientist Intern** | Autodesk Research *(👥 B. Aseniero, J. Matejka)* May – August 2023
- Developed evaluation frameworks for genAI outputs; prototyped human-in-the-loop data provenance review systems.

**Research Scientist Intern** | Wikimedia Foundation *(👥 M. Novotny, D. Saez-Trumper)* May – Sept 2020

- Developed lightweight and deployable indicator system prototypes to support information trustworthiness assessments and decision-making across the platform.
- **Published experiments and prototypes** in Proceedings of ACM CHI 2022.

**Software Engineer Intern** | Core Infrastructure Team, Amazon Mechanical Turk *(👥 S. Henry)* May – Aug 2016

- Prototyped human-in-the-loop workflow systems; became AWS SageMaker Ground Truth & A2I products.

**Technical Consultant** | Hackstar Team, Techstars Chicago May – Aug 2014

- Embedded within startups in the Techstars Chicago class of 2014 to assist with technical development in preparation for investor demos and presentations.

## WORKING PAPERS

2. **Kuznetsov, A.**, Chao, P., Dishop, C. R., Brown, A. S., Woolley, A. W. (2025). Theseus - Synthetic Teamwork for Enhanced Asynchronous Collaboration. *[In Preparation].*
1. **Kuznetsov, A.**, Culvey, E. V., Dalton, S., Koshy, G., Fernandez, A. R., Kupas, D. F. (2025). RPM Revisited: Association of the Respiratory-Pulse-Motor (RPM) and Simplified Respiratory-Pulse-Motor (sRPM) Score with Mortality and Length of Stay in a Modern Prehospital Patient Cohort. *[In Preparation; Prehospital Emergency Care].*

## PUBLICATIONS

15. Dishop, C. R., Brown, A. S., **Kuznetsov, A.**, Chao, P., Woolley, A. W. (2025) Machines in the Middle: Using Artificial Intelligence (AI) While Offering Help Affects Warmth, Felt Obligations, and Reciprocity. *Springer Nature Journal of Business and Psychology* **(JBP '25)**.
14. Brown, A. S., Dishop, C. R., **Kuznetsov, A.**, Chao, P., Woolley, A. W. (2025, June). Beyond efficiency: Trust, AI, and surprise in knowledge work environments. *Elsevier Computers in Human Behavior*. **(CHB '25)**
13. **Kuznetsov, A.**, Chao, P., Dishop, C. R., Brown, A. S., Woolley, A. W. (2024, November). Transactive Memory in Caregiver Networks Using Artificial Intelligence. *Artificial Intelligence for Aging in Place*. **(AAAI FSS '24)**
12. **Kuznetsov, A.**, Culvey, E. V., Dalton, S., Koshy, G., Fernandez, A. R., Kupas, D. F. (2024, September; 2025, January). Association of a Simplified RPM Triage Score with Mortality May Indicate an Opportunity for Easier but Still Valid Rapid Triage of Injured Patients. *In The 2024 International Scientific Symposium, Prehospital Care Research Forum (ISS/PCRF '24) and National Association of EMS Physicians (NAEMSP '25).*
11. Koshy, G., **Kuznetsov, A.**, Culvey, E. V., Dalton, S., Fernandez, A. R., Kupas, D. F. (2024, September; 2025, January). Is the RPM Trauma Triage Score Valid in Predicting Mortality in Prehospital Patients with Non-traumatic Medical Illness? *In The 2024 International Scientific Symposium, Prehospital Care Research Forum **(ISS/PCRF '24)** and National Association of EMS Physicians **(NAEMSP '25)**.*
10. Culvey, E. V., **Kuznetsov, A.**, Koshy, G., Dalton, S., Fernandez, A. R., Kupas, D. F. (2024, September; 2025, January). Validating the Use of the RPM Score for Triage of Injured Patients in a Current Trauma Population. *In The 2024 International Scientific Symposium, Prehospital Care Research Forum **(ISS/PCRF '24)** and National Association of EMS Physicians **(NAEMSP '25)**.*
9. **Kuznetsov, A.**, Liu, M., Kittur, A. (2024). Tasks, Time, and Tools: Quantifying Online Sensemaking Through a Survey-based Study. *Preprint arXiv:2411.07206*. **(arXiv)**
8. **Kuznetsov, A.**, Chao, P., Dishop, C. R., Brown, A. S., Woolley, A. W. (2024, June). The Collaborative Caring Virtual Testbed: A software platform for prototyping collective intelligence interventions for asynchronous care-teams. *ACM Collective Intelligence*. **(CI '24)**
7. Brown, A. S., Dishop, C. R., **Kuznetsov, A.**, Chao, P., Woolley, A. W. (2024, June). Beyond efficiency: Commitment issues: Feedback, commitment, and performance in algorithmically managed contexts. *ACM Collective Intelligence*. **(CI '24)**
6. **Kuznetsov, A.**, Chang, J., Hahn, N., Rachatasumrit, N., Breneisen, B., Coupland, J., Kittur, A. (2022, October). Fuse: In-Situ Sensemaking Support in the Browser. *35th Annual ACM Symposium on User Interface Software and Technology*. **(UIST '22)**
5. Liu, M., **Kuznetsov, A.**, Kim, Y., Chang, J., Kittur, A., Myers, B. P. (2022, October). Wigglite: Low-cost Information Collection and Triage. *35th Annual ACM Symposium on User Interface Software and Technology*. **(UIST '22)**
4. **Kuznetsov, A.**, Novotny, M., Klein, J., Saez-Trumper, D., Kittur, A. (2022, April). Templates and Trust-o-meters: Towards a widely deployable indicator of trust in Wikipedia. *Proceedings of the 2022 CHI Conference on Human Factors in Computing Systems*. **(CHI '22)**
3. Reinhart, A., Brooks, L., Jahja, M., Rumack, A., Tang, J., Agrawal, S., …**Kuznetsov, A.**, …, Tibshirani, R. J. (2021). An open repository of real-time COVID-19 indicators. *Proceedings of the National Academy of Sciences, 118(51)*. **(PNAS '21)**

2. Hastings, E. M., Alamri, A., **Kuznetsov, A.**, Pisarczyk, C., Karahalios, K., Marinov, D., Bailey, B. P. (2020, April). LIFT: Integrating Stakeholder Voices into Algorithmic Team Formation. *Proceedings of the 2020 CHI Conference on Human Factors in Computing Systems*. **(CHI '20)**
1. Jain, A., Seo, J. Y., Goel, K., **Kuznetsov, A.**, Parameswaran, A., Sundaram, H. (2016). It's just a matter of perspective(s): Crowd-Powered Consensus Organization of Corpora. *Preprint arXiv:1601.02034*. **(arXiv)**

## PRESENTATIONS

7. **Kuznetsov, A.**, Choi, Y. K. (2026, September). Introducing Newcomers to Home Care Networks. *4th Biennial Conference on Caregiving Research, poster session. Salt Lake City, UT.* ***(Caregiving Research '26 Poster)****.*
6. **Kuznetsov, A.**, Dishop, C. R., Brown, A. S., Chao, P., Woolley, A. W. (2026, August). A Head Start Without a Handshake: Team Context Introductions in Asynchronous Home Care Networks. *Academy of Management Annual Meeting, Organizational Behavior Division poster session. Philadelphia, PA.* ***(AOM '26 Poster)****.*
5. Brown, A. S., **Kuznetsov, A.**, Woolley, A. W. (2026, August). The Stakeholder Dilemma: Disclosure, Trust, and Accountability for AI in Research. *Academy of Management Annual Meeting, "Influences of Voice in Organizations." Philadelphia, PA.* ***(AOM '26 Paper)****.*
4. (Oral Presentation; 1% of submissions) Culvey, E. V., **Kuznetsov, A.**, Koshy, G., Dalton, S., Fernandez, A. R., Kupas, D. F. (2024, September). Is Your Trauma Triage Accurate? *In The 2024 World Trauma Symposium.* **(WTS '24)**
3. Brown, A. S., Dishop, C. R., **Kuznetsov, A.**, Chao, P., Woolley, A. W. (2023, September). Beyond efficiency: Commitment issues: Feedback, commitment, and performance in algorithmically managed contexts. *Academy of Management Annual Meeting, "Humans + AI: Organizational behavior research on human-machine interactions."* ***(AOM '23 Symposium)****.*
2. **Kuznetsov, A.**, Chao, P., Dishop, C. R., Brown, A. S., Woolley, A. W. (2023, September). Scaffolding Trust and Context in Asynchronous Collaboration. *Trust: Social Bridge Between Humans and Technology. Virtual.*
1. Brown, A. S., Dishop, C. R., **Kuznetsov, A.**, Chao, P., Woolley, A. W. (2023, September). Beyond efficiency: Trust, AI, and surprise in knowledge work environments. *Trust: Social Bridge Between Humans and Technology. Virtual.*