

Ray-Yuan (Ray) Chung

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Human-centered AI researcher applying behavioral science to AI agent design and development.

Research Interests: Human-AI Collaboration, Responsible AI, Health AI, Agentic AI

EDUCATION

University of Washington , Seattle, WA Ph.D. in Biomedical and Health Informatics, Concentration: HCI and AI/ML	2023–2027 (anticipated)
University of Michigan , Ann Arbor, MI M.P.H. in Nutritional Sciences and Dietetics	2018–2020
National Chung-Hsing University , Taichung, Taiwan B.S. , Concentration: Pre-Med	2013–2017

RELEVANT EXPERIENCE

University of Washington, Seattle, WA Sep 2023–Present
Graduate Student Researcher

- *Mental Health Knowledge Graph*: Built a mental health knowledge graph, QA dataset (10k+ nodes), and a multi-agent evaluation pipeline to benchmark reasoning and retrieval accuracy.
- *Co-Design for Human-AI Collaboration*: Co-designed an AI-powered decision-support tool with patients, caregivers, and clinicians through workshops and vignette-based values elicitation.
- *AI Conversational Agent for Older Adults*: Developed a conversational agent (OpenAI API + Streamlit) for older adults and ran iterative workshops to improve usability, accessibility, and trust.
- *Online Health Misinformation*: Applied LLaMA-based classification (few-shot + CoT) and mixed-effects regression to analyze engagement patterns with health misinformation on YouTube.
- *Health Device Usability*: Ran mixed-methods usability testing with cystic fibrosis patients for an at-home lung monitoring device.

Unita Health, Santa Clara, CA (Remote) Sep 2024–Sep 2025
Human-AI Interaction Researcher

- Led end-to-end development of a RAG powered conversational health agent (dataset curation → retrieval pipeline → usability evaluation with patients).

Dexcom, San Diego, CA Jun 2024–Sep 2024
User Experience Research Intern

- Conducted behavioral theory-driven research (surveys + interviews) to inform wearable glucose biosensor feature design and shaped product roadmap.

Impossible Foods, Redwood City, CA May 2022–Aug 2023
Research Scientist

- Translated analysis of large-scale nutrient datasets (100k+ datapoints) into actionable insights that informed product innovation and business strategy.

Heali AI, Los Angeles, CA (Remote) Mar 2021–May 2021
Nutrition AI Researcher

- Curated and annotated nutrition datasets to train an AI menu scanner for personalized dietary insights.

PUBLICATIONS

- **Ray-Yuan Chung**, Jaime Snyder, Zixuan Xu, Daeun Yoo, Athena C. Ortega, Wanda Pratt, Aaron Wightman, Ryan Hutson, Cozumel Pruette, Ari Pollack. Design Implications for Collaborative Decision-making Technologies in Pediatric Chronic Care. *CHI 2026 (Under Review)*.
- Feng Chen, Manas Satish Bedmutha, **Ray-Yuan Chung**, Janice Sabin, Wanda Pratt, Brian R Wood, Nadir Weibel, Andrea L Hartzler, Trevor Cohen. Toward Automated Detection of Biased Social Signals from the Content of Clinical Conversations. 2025. *AMIA Annual Symposium Proceedings*.
- Luna Xingyu Li, **Ray-Yuan Chung**, Feng Chen, Wenyu Zeng, Yein Jeon, Oleg Zaslavsky. Learning from Elders: Making an LLM-powered Chatbot for Retirement Communities more Accessible through User-centered Design. 2025. In *Proceedings of the CALD-AI Workshop at ASIS&T*.
- **Ray-Yuan Chung**, Feng Chen, Yein Jeon, Oleg Zaslavsky. Improve Technology and EHealth Literacy in a Retirement Community via the Use of LLM-Powered Chatbot. 2024. *Innovation in Aging*.
- Prasad P Devarshi, **Ray-Yuan Chung**, Carroll A Reider, Ryan W Grant, Susan Hazels Mitmesser. Nutrient Gaps in US Adults by Age and Gender: Vitamin A, D, E, K, C, Magnesium, Calcium, Choline and Dietary Fiber. 2020. *Journal of the Academy of Nutrition and Dietetics*.
- Carroll A Reider, **Ray-Yuan Chung**, Prasad P Devarshi, Ryan W Grant, Susan Hazels Mitmesser. Inadequacy of immune health nutrients: intakes in US adults, the 2005–2016 NHANES. 2020. *Nutrients*.

AWARDS

- Top Scholars Award, UW (2023)
- Global Scholars Award, NSF International (2018–2020)
- Maxine Moore Scholarship, UM SPH (2019)

SKILLS

Programming & Tools: Python, R, JavaScript, PyTorch, TensorFlow, Hugging Face, LangChain, Docker, Git, Tableau, REDCap, Qualtrics, Prolific

AI/ML: LLMs, RAG, Multi-Agent Systems, NLP, Multimodal Learning, Reinforcement Learning, Fine-tuning, Prompt Engineering, Regression Modeling

UX/HCI Research: Interviews, Surveys, Usability Testing, A/B Testing, Mixed Methods Research, Inclusive Design, Participatory Design

Behavioral Science: Behavior Change Design, Health Behavior Theory, Experimental Design

AFFILIATIONS / LICENSURES

- Registered Dietitian (2021 - present)
- The DUB Group at University of Washington