

Wayne C.W. Giang, Ph.D.

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PROFESSIONAL SUMMARY

UX Researcher and human factors specialist with 15+ years of experience studying how people understand, learn, and safely use emerging technologies in regulated, high-stakes environments. Expertise in mixed-methods research, advanced statistical analysis, usability evaluation, and human-centered design. Experience spans consumer financial contexts, healthcare, and transportation. Skilled in developing inclusive and accessible research approaches, supporting diverse user populations, and translating evidence into practical guidance for design, policy, and consumer education. Experienced leading complex, interdisciplinary projects and advancing research that improves real-world decision-making and technology adoption.

RELEVANT HUMAN FACTORS AND UX RESEARCH EXPERIENCE

Procom (TD Contractor)

Mar 2026 - Present

Senior UX Researcher, Research Science

- Conducted mixed-methods UX research on colleague-facing enterprise software, using interviews, field studies, expert knowledge elicitation, surveys, and knowledge harvests to evaluate usage, identify factors shaping user interactions,.
- Synthesized qualitative and quantitative findings into actionable design implications and research-based recommendations for enterprise software and user workflows.
- Supported design thinking sessions by translating research findings into evidence-based inputs for collaborative problem definition, ideation, and solution development.
- Integrated AI tools into research workflows to develop data-collection materials, data-presentation and evaluation tools, and AI-assisted analyses grounded in statistical and qualitative research expertise.

University of Florida

Aug 2018 - Aug 2025

Assistant Professor, Industrial and Systems Engineering

Consumer Education, Training, and System Understanding for Vehicle Automation and AI

- Led the design and evaluation of training approaches to help consumers understand and effectively use in-vehicle automation and AI, comparing how different scaffolding strategies (conceptual explanations vs. procedural guidance) shaped learning and use behaviors across diverse user groups (e.g., older and younger drivers, engineering students).
- Directed driving-simulator and eye-tracking studies, using attention patterns and behavioral data to assess how users engaged with training materials and automation features.
- Worked with industry, academic, and policy stakeholders to translate findings into guidance for consumer education around emerging automation technologies.

Health Insurance Enrollment Decision-Making Research

- Delivered mixed-methods UX research examining consumer comprehension and decision-making during employer provided health insurance enrollment using different types of consumer facing decision-aids.
- Designed and executed interviews, surveys, and think-aloud studies to identify how decision-aid type, information structure, and framing shaped decision-making processes and consumer comprehension.
- Synthesized qualitative and quantitative findings into actionable design implications for improving decision aids in regulated consumer contexts.

Decision Support & Uncertainty Visualization UX Research for Medical Dispatch

- Conducted UX research in a medical dispatch control center, including contextual interviews and observations with dispatchers and other operational stakeholders.
- Designed and evaluated uncertainty visualizations for time-critical decision support using a combination of controlled experiments and scalable online studies (custom-built experimental platforms and MTurk data collection).
- Integrated field findings and experimental results to identify systematic judgment and misinterpretation patterns related to uncertainty and use of contextual information in decision-support interfaces.
- Research outcomes informed technology transfer from the university to a computer-aided dispatch vendor, supporting translation of findings into operational decision-support tools.

Inclusive Design & Automated Vehicle Evaluation for Medically Vulnerable Drivers

Inclusive Research with Neurodiverse Populations (Automated Vehicles)

- Planned and conducted inclusive and participatory design research with older adults and individuals with mild cognitive impairment, conducting interviews and co-design sessions to identify barriers, needs, and opportunities for accessible interfaces for highly automated vehicles during emergency situations.
- Collaborated with a multidisciplinary (neurologists, driver rehabilitation specialists, civil engineers, human factors specialists, and computer scientists) team to translate qualitative insights into prototype interface concepts; supported iterative refinement through requirements analysis, formative evaluation, and participatory design.

Clinical Safety and Usability Evaluation of In-Vehicle Technologies

- Led human factors components of a large, on-road clinical study evaluating how advanced driver assistance systems influence driving performance for people with Parkinson’s disease.
- Instrumented data collection vehicle, developed data-collection and processing pipelines, and supervised recruitment and structured data collection.
- Analyzed multi-modal datasets (video-coded driving behavior, telemetry data, clinical assessments) and contributed to reports and publications assessing safety, usability, and functional benefit.

SKILLS AND COMPETENCIES

Human Factors Expertise:

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| <ul style="list-style-type: none">• Usability and Human-Centered Design• Knowledge elicitation (contextual inquiry, critical decision/incident methods)• Ethnographic and observational methods• Emergent themes analysis | <ul style="list-style-type: none">• Task analyses (Hierarchical Task Analysis, Cognitive Work Analysis)• Experiment design & statistical analysis• Data collection (remote telemetry, eye-tracking, simulated environments) |
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Technical Proficiency:

- Statistical Analysis: R, SPSS, SAS, Python
- Usability & Analysis Tools: Figma, Ergoneers D-Lab, Tobii Pro Labs, PsychoPy, Qualtrics, REDCap, OBS

Soft Skills:

- Effective communication and teamwork skills
- Cross-functional leadership
- Science communication and dissemination
- Project management (effort allocation, budgeting, logistics, reporting)

EDUCATION

Ph.D., Industrial Engineering, University of Toronto, 2018
M.A.Sc., Systems Design Engineering, University of Waterloo, 2012
B.A.Sc., Systems Design Engineering, University of Waterloo, 2009