LIAM KETTLE, M.S.

PhD Candidate - Human Factors and User Experience Researcher

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EDUCATION

2024 — **PhD., Human Factors & Applied Cognition Psychology**
George Mason University — Fairfax, VA

2022 — **M.A., Human Factors & Applied Cognition Psychology**
George Mason University — Fairfax, VA

2020 — **M.S., Psychology**
University of Otago — Otago, New Zealand

2018 — **B.S.(Hons), Psychology**
University of Otago — Otago, New Zealand

RESEARCH EXPERIENCE

Current | 2020 — **Graduate Research Assistant**
George Mason University — Fairfax, VA

- Identified 29 key insights and recommendations for effective communication between autonomous vehicles and drivers through a systematic review of 31 articles and analyzing 8500+ comments across 128 participants.
- Identified actionable recommendations to increase potential for product growth of meal delivery services through task, competitor, and heuristic analysis, 5+ user interviews, and iterative prototyping to explore users' behaviors and motivations.
- Performed qualitative analysis of 19 user interviews and over 1,500 comments from online public forums identifying 21 emerging themes across the parallel studies to improve accessibility, communication style, and user experiences of mental health AI chatbots.
- Managed 20+ researchers over 7 projects through all phases of research, from study design (literature reviews and planning), data collection (in-person and online recruitment), and analysis (qualitative thematic analysis, ANOVA, moderation analysis).
- Demonstrated technical statistics expertise using SPSS and R statistical software to analyze quantitative (ANOVA, multiple regression, psychometrics, Bayesian) and qualitative (thematic analysis) data including structured and unstructured surveys, performance metrics, and usability tests.

2023 — **Summer Research Assistant**
George Mason University — Fairfax, VA

- Identified 5+ areas for improvement towards creating a testbed for human-machine teaming in space operations through conducting an experimental study with 20 participants.
- Analyzed quantitative measures using R to provide a proof-of-concept in support of future grants towards human-machine teaming.
- Collaborated with the United States Air Force Academy and mentored 2 cadets in end-to-end research.

2020 | 2018 — **Researcher**
University of Otago — Otago, New Zealand

- Developed STI-SIM driving simulations and regressed behavioral changes on quantitative survey data of 100+ participants using SPSS to identify distinct youth driver risk factors across visibility conditions.
- Systematically identified 40+ crash contributing factors at rail level crossings across New Zealand and Australia through thematic analysis of investigation reports and Subject Matter Expert survey.

UX METHODS

Competitor analysis
Data visualization
Experimental design
Hypothesis testing
Participant recruitment
Prototype feedback & testing
Survey analysis
Survey development & design
Task analysis
Usability evaluations
User interviews
User testing

STATISTICAL ANALYSES

ANOVA
Correlation
Exploratory data analysis
Psychometrics
Qualitative analysis
Regression

CODING / TOOLS

Figma
Qualtrics
R
SPSS
SQL

*Made with the R packages **pagedown** and **datadrivencv**.*

The source code is available on github.com/LiamKettle/resume.

Last updated on 2023-10-17.

TEACHING EXPERIENCE

2020 | 2018

Psychology Teaching Assistant
University of Otago — Otago, New Zealand

- Taught over 70 undergraduate students across 3 class laboratories, graded 100% of student assignments, and provided constructive feedback for students.
- Evaluated over 50 novel system designs across various applications of Human Factors and provided recommendations for future accident analyses.

SELECT PUBLICATIONS

Kettle, L., Herrera, K.M.G., Pithayarungsarit, P., Simpson, K.L., Sharifi, K., & Lee, Y-C. (Under Review). Exploring a Framework of Contextual Vehicle-Human Communication Features Across Driving Contexts to Enhance Situation Awareness and Trust. *Transportation Research Part C*

Kettle, L., McCarty, M.M., Simpson, K.L., & Lee, Y-C. (Under Review). Impact of Monitoring Requests on Publics' Assignment of Blame and Praise towards Level 3-equipped Vehicles. *Human Behavior and Emerging Technologies*

Kettle, L., & Lee, Y-C. (2023). User Experiences of Well-being Chatbots. *Human Factors*. https://doi.org/10.1177/00187208231162453

Kettle, L., & Lee, Y-C. (2022). Augmented Reality for Vehicle-Driver Communication: A Systematic Review. *Safety*. https://doi.org/10.3390/safety8040084

SELECT AWARDS

- HFES Emerging Leader Program (2023)
- HFES Student Member with Honors (2023)
- George Mason University Presidential Scholarship (2020, 2021, 2022, 2023)
- University of Otago Master's Research Scholarship (2019)

PROFESSIONAL SERVICE & LEADERSHIP

Current | 2022

Leadership Development Committee Member
Human Factors and Ergonomics Society

- Further developed leadership resources for new professional and student leaders of the HFES organization through reviewing existing literature and conducting interviews to identify user needs.
- Established new communication pipelines for HFES students through the development of a community for HFES students and increased workshops for HFES Student Chapter leadership.

2023

HFES Host Committee Member
Human Factors and Ergonomics Society

- Organized events and activities for academic, industry, and government attendees for the HFES annual meeting.

2022 | 2021

Student Chapter President
Human Factors and Ergonomics Society

- Elected leader for student chapter with 9 members and responsible for continuing active engagement with local and national organizations.
- Organized 17 events including 10 guest speakers for information dissemination, recruitment, and mentorship.