Rongbing Xu

Research Associate · Systems Design Engineering

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Education

University of Waterloo — *Waterloo, ON, Canada*

Ph.D. in Systems Design Engineering (Aeronautics) — *2024-Present*

- Advisor: Dr. Shi Cao

University of Waterloo — *Waterloo, ON, Canada*

M.A.Sc. in Systems Design Engineering — *2019-2022*

- Advisor: Dr. Shi Cao

University of New Mexico — *Albuquerque, NM, USA*

B.Sc. in Computer Science — *2016-2019*

- Minors in Mathematics

Professional Experience

2024-present	**Graduate Teaching Assistant**, University of Waterloo
2022-2024	**Research Assistant**, University of Waterloo
2019-2022	**Graduate Teaching Assistant**, University of Waterloo

Publications

Published

Rongbing Xu, Shi Cao, Suzanne K. Kearns, Ewa Niechwiej-Szwedo, and Elizabeth Irving. 2024. Computational cognitive modeling of pilot performance in pre-flight and take-off procedures. Journal of Aviation/Aerospace Education & Research, 33(4), 2.

Rongbing Xu, Shi Cao. 2021. Modeling pilot flight performance in a cognitive architecture: model demonstration. Proceedings of the Human Factors and Ergonomics Society Annual Meeting. Vol. 65. No. 1.

Master Thesis

Rongbing Xu. 2022. Modeling pilot flight performance on pre-flight and take-off tasks with a cognitive architecture. UWSpace. http://hdl.handle.net/10012/18174

Awards, Fellowships, & Grants

2020-2022	**Engineering Excellence Master's Fellowship**, University of Waterloo	*$ 36,000*
2016-2019	**International Amigo Scholarship**, University of New Mexico	*$ 48,000*

Presentations

Contributed Presentations

Shi Cao, Ewa Niechwiej-Szwedo, Elizabeth Irving, John Munoz, and **Rongbing Xu**. 2023. Data Platform and Information Technologies Transforming General Aviation Pilot Training. Poster: Sustainable Aeronautics Summit 2023.

Rongbing Xu. 2022. Modeling Pilot Flight Performance on Take-off Task with QN-ACTR. Oral presentation: Virtual MathPsych/ICCM 2022.

Rongbing Xu. 2022. Modeling Pilot Flight Performance in a Cognitive Architecture. Departmental seminar: Department of Systems Design Engineering, University of Waterloo.

Rongbing Xu and Shi Cao. 2021. Modeling Pilot Flight Performance in a Cognitive Architecture: Model Demonstration. Oral presentation: Human Factors and Ergonomics Society 65th Annual Meeting.

Teaching Experience

Winter 2021 **Data Structures and Algorithms**, Teaching Assistant, University of Waterloo
Fall 2021 **Elementary Engineering Mathematics**, Teaching Assistant, University of Waterloo
Spring 2021 **Data Structures and Algorithms**, Teaching Assistant, University of Waterloo
Winter 2021 **Optimization and Numerical Methods**, Teaching Assistant, University of Waterloo
Fall 2020 **Data Structures and Algorithms**, Teaching Assistant, University of Waterloo

Research Experience

University of Waterloo - Waterloo Institute of Sustainable Aeronautics *Waterloo, ON, Canada*
Advisor: Dr. Shi Cao *2022 - Present*
- Project: "Data Platform and Information Technologies Transforming General Aviation Pilot Training"

Mitacs *Waterloo, ON, Canada*
Advisor: Dr. Shi Cao *2021*
- Project: "Operator Space Situation Awareness in Space Object Tracking Tasks"

University of Waterloo - Department of System Design Engineering *Waterloo, ON, Canada*
Advisor: Dr. Shi Cao *2019-2022*
- Thesis: "Modeling Pilot Flight Performance on Pre-flight and Take-off Tasks with A Cognitive Architecture"

Outreach & Professional Development

Peer Review

One journal I review for
IEEE Transactions on Human-Machine Systems