

Kagurazaka Ritsuka (晏雲杉)

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<https://github.com/Ritsuka314/CV/blob/master/cv.pdf>

<b>Research interests</b>	discrete-event systems: supervisory control, decentralization; formal reasoning; computer assisted and verified proofs
<b>Teaching experience</b>	Data Structures; Computer Architecture; Microprocessor Interfacing and Embedded Systems; Discrete Mathematics; Semantics of Programming Language; Electric Circuits.
<b>Teaching awards</b>	2021 Dean's Teaching Assistant Award (DTA), as exceptional Teaching Assistant nominated by the department.  Teaching Assistant of the Year for Excellence in Education and Exceptional Teaching, as voted by students of the department, for the academic year of 2016/2017.
<b>Position</b>	Post-doctoral Research Fellow Department of Electrical Engineering and Computer Science, University of Michigan Principal Investigator: Prof. Stéphane Lafortune Feb. 2024–Jan. 2025
<b>Education</b>	<b>Queen's University, Canada</b> <i>Doctor of Philosophy, Department of Electrical and Computer Engineering</i> <i>Supervisor: Prof. Karen Rudie</i> <i>Awarded:</i> 2023 November  <b>Queen's University, Canada</b> <i>Master of Engineering, Department of Electrical and Computer Engineering</i> <i>Awarded:</i> 2019 June <i>GPA:</i> 4.02/4.3  <b>Queen's University, Canada</b> <i>Bachelor of Applied Science, Department of Electrical and Computer Engineering</i> <i>Awarded:</i> 2018 June <i>Honours:</i> First Class Honours <i>GPA:</i> CGPA: 3.85/4.3
<b>Publications</b>	See also <a href="https://ritsuka.moe/bibpage.html">https://ritsuka.moe/bibpage.html</a> .  <b>K. Ritsuka</b> <i>Decentralized Problems of Discrete-Event Systems: Epistemic Reasoning and Graph Representation</i> Ph.D. thesis

**K. Ritsuka**, K. Rudie

“A Uniform Approach to Compare Architectures in Decentralized Discrete-Event Systems”, 2023

Submitted for Publication. Preprint available as [arXiv:2210.16511](https://arxiv.org/abs/2210.16511).

**K. Ritsuka**, K. Rudie

“Equivalence of Decentralized Observation, Diagnosis, and Control Problems in Discrete-event Systems”, 2023

Preprint available as [arXiv:2204.10792](https://arxiv.org/abs/2204.10792).

N. Mertin, **K. Ritsuka**, K. Rudie

“A Framework for the High-Level Specification and Verification of Synchronous Digital Logic Systems”, 2022

Preprint available as [arXiv:2201.10632](https://arxiv.org/abs/2201.10632).

**K. Ritsuka**, K. Rudie

“A Visualization of Inference-Based Supervisory Control in Discrete-Event Systems”, 2021

Presented at 2021 60th IEEE Conference on Decision and Control (CDC). DOI:10.1109/CDC45484.2021.9683210.

**K. Ritsuka**, K. Rudie

“Do What You Know: Coupling Knowledge with Action in Discrete-Event Systems”, In *Discrete Event Dynamic Systems*. DOI:10.1007/s10626-023-00381-z.

**K. Ritsuka**, K. Rudie

“Epistemic Interpretations of Decentralized Discrete-Event System Problems”, 2022 In *Discrete Event Dynamic Systems*. DOI:10.1007/s10626-022-00363-7.

J. Kulchyk, B. Schonewille, **K. Ritsuka**, K. Rudie

“Communication-Free Multi-Agent Coordination in an Unknown Environment”, 2020, Presented at 2020 15th IFAC Workshop on Discrete Event Systems (WODES). DOI:10.1016/j.ifacol.2021.04.062

## Teaching

### Graduate Teaching Assistant

CISC 465/865-2023W: Semantics of Programming Languages (ongoing)

ELEC 274-2023W: Computer Architecture (ongoing)

ELEC 371-2022F: Microprocessor Interfacing and Embedded Systems

\* ELEC 270-2022W: Discrete Mathematics

\*\* ELEC 270-2021W: Discrete Mathematics

ELEC 371-2020F: Microprocessor Interfacing and Embedded Systems

ELEC 270-2020W: Discrete Mathematics

ELEC 278-2019F: Data Structures

ELEC 278-2018F: Data Structures

\* Head TA

\*\* Recipient of the 2021 Dean’s Teaching Assistant Award (DTA), as exceptional Teaching Assistant nominated by the department. With a monetary award.

### Undergraduate Teaching Assistant

ELEC 274-2018W: Computer Architecture

ELEC 278-2017F: Data Structures

\* ELEC 274-2017W: Computer Architecture

ELEC 221-2016F: Electric Circuits

- \* Awarded as Teaching Assistant of the Year for Excellence in Education and Exceptional Teaching, as voted by students of the department, for the academic year of 2016/2017.

## **Awards**

- Dean's Teaching Assistant Award, 2021
- Students' Choice: The Best Engineering Capstone Project, 2018
- Teaching Assistant of the Year, 2017
- Ho Ming Tai Memorial Scholarship, 2015, 2016, 2017, 2018
- Dean's Scholar, 2015, 2016, 2017, 2018
- Queen's University Excellence Scholarship, 2014