

# REX CHEN

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## EDUCATION

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### CARNEGIE MELLON UNIVERSITY

School of Computer Science

PhD in Societal Computing (Year 2; GPA: 4.26/4.33)

**Aug 2020 – Present**

Advisors: Fei Fang,

Norman Sadeh

### UNIVERSITY OF BRITISH COLUMBIA

Department of Computer Science

Honours BSc in Computer Science (Average: 92.9%)

**Sep 2015 – May 2020**

Advisor: Kevin Leyton-Brown

## REFERREED CONFERENCE PAPERS

\* Equal contribution

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- [1] **Rex Chen**, Fei Fang, & Norman Sadeh (2022) “[The Real Deal: A Review of Challenges and Opportunities in Moving Reinforcement Learning-Based Traffic Signal Control Systems Towards Reality](#)”. *12th International Workshop on Agents in Traffic and Transportation (ATT '22, at IJCAI '22)*.
  - [2] Peter Story, Daniel Smullen, **Rex Chen**, Yaxing Yao, Alessandro Acquisti, Lorrie Faith Cranor, Norman Sadeh, & Florian Schaub (2022) “[Increasing Adoption of Tor Browser Using Informational and Planning Nudges](#)”. *Proceedings on Privacy-Enhancing Technologies (PETS) 2022.2*.
  - [3] Siddhant Arora, Henry Hosseini, Christine Utz, Vinayshekhar Bannihatti Kumar, Tristan Dhellemmes, Abhilasha Ravichander, Peter Story, Jasmine Mangat, **Rex Chen**, Martin Degeling, Tom Norton, Thomas Hupperich, Shomir Wilson, & Norman Sadeh (2022) “[A Tale of Two Regulatory Regimes: Creation and Analysis of a Bilingual Privacy Policy Corpus](#)”. *Proceedings of the 13th International Conference on Language Resources and Evaluation (LREC '22)*.
  - [4] **Rex Chen**, Fei Fang, & Norman Sadeh (2021) “Deep Gaussian Processes for Preference Learning”. *Workshop on Human and Machine Decisions at NeurIPS 2021 (WHMD '21, at NeurIPS '21)*.
  - [5] **Rex Chen**, Fei Fang, Aleecia M. McDonald, Thomas Norton, & Norman Sadeh (2021) “[Fighting the Fog: Evaluating the Clarity of Privacy Disclosures in the Age of CCPA](#)”. *Proceedings of the 20<sup>th</sup> Workshop on Privacy in the Electronic Society (WPES '21)*.
  - [6] Chris Cameron\*, **Rex Chen**\*, Jason Hartford\*, & Kevin Leyton-Brown (2020) “[Predicting Propositional Satisfiability via End-to-End Learning](#)”. *Proceedings of the 2020 AAAI Conference on Artificial Intelligence (AAAI '20)*, **34**(04), 3324–3331.
  - [7] Chris Cameron\*, **Rex Chen**\*, Jason Hartford\*, & Kevin Leyton-Brown (2019) “Predicting Propositional Satisfiability via End-to-End Learning”. *NeurIPS 2019 Graph Representation Learning Workshop (GRL '19, at NeurIPS '19)*.

## REFERREED JOURNAL PAPERS

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- [8] **R. H.-G. Chen**, C.-C. Chen, & C.-M. Chen (2019) “[Unsupervised cluster analyses of character networks in fiction: Community structure and centrality](#)”. *Knowledge-Based Systems* **163**: 800–810.
- [9] **R. H.-G. Chen** & C.-M. Chen (2016) “[Visualizing the World's Scientific Publications](#)”. *Journal of the Association for Information Science and Technology*. **67**(10): 2477–2488.

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- [10] Daniel Smullen, **Rex Chen**, Parth Thakkar, Priya Kavuru, Yaxing Yao, & Norman Sadeh (2022)  
“Examining Browser Privacy and Security Settings”. Submitted to *Proceedings on Privacy-Enhancing Technologies* (PETS) **2023.2**.

## INVITED TALKS

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- [11] “**Fighting the Fog: Evaluating the Clarity of Privacy Disclosures in the Age of CCPA**”. CyLab Partners Conference (2021; online): oral presentation and lab tour.
- [12] “**Explore Usable Privacy: An Website Privacy Policy Dataset Incorporating Human and Machine Annotation**”. CyLab Partners Conference (2020; online): poster and oral presentation.

## ACADEMIC WORK EXPERIENCE

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### PHD CANDIDATE

**Institute for Software Research, Carnegie Mellon University** **Aug 2020 – Present**

- Researching applications of multi-agent reinforcement learning, game theory, and preference learning to applications in transportation, including traffic signal control and ridesharing.
- **Submissions:** [1, 2, 3, 4, 5, 10]; **Talks:** [11, 12]

### TEACHING ASSISTANT

**Institute of Software Research, Carnegie Mellon University** **Sep 2021 – April 2022**

- **17-737/Executive Education** “Artificial Intelligence Methods for Social Good”: Assisted with lectures, designed homework assignments, and co-advised course projects.
- **17-331/17-631** “Information Security, Privacy, and Policy”: Assisted with lectures, co-advised course projects, and designed in-class quizzes. Guest lecture: “Usable Security and Privacy” (October 12, 2021).

### TEACHING ASSISTANT

**Department of Computer Science, University of British Columbia** **Jul 2019 – Aug 2019**

- **CPSC 213** “Introduction to Computer Systems”: Assisted with lectures and laboratories.

### RESEARCH ASSISTANT

**Department of Computer Science, University of British Columbia** **May 2018 – Jun 2020**

- Trained graph neural networks end-to-end to predict propositional satisfiability with high accuracy and scalability on a challenging distribution, outperforming state-of-the-art hand-engineered features.
- Formalized conditions under which end-to-end neural network training can improve downstream optimization performance, based on experiments with stochastic graph optimization problems.
- Supported by Canadian NSERC Undergraduate Student Research Awards (2018, 2019).
- **Publications:** [6, 7]

### TEACHING ASSISTANT

**Department of Computer Science, University of British Columbia** **May 2017 – Jun 2017**

- **CPSC 213** “Introduction to Computer Systems”: Assisted with lectures and laboratories.

**Department of Computer Science, University of British Columbia      Jan 2017 – Apr 2017**

- **CPSC 121** “Models of Computation”: Assisted with lectures and laboratories.

**INDEPENDENT RESEARCH      Jun 2014 – Jan 2019**

- Used natural language processing, network statistics, graph theory to analyse static and dynamic properties of social networks formed by associations between characters in literary fiction.
- Applied text-mining, classification, and clustering algorithms to analyse and visualize global scientific development through scientific journal publications over the span of 18 years.
- **Publications:** [8, 9]

**ACTIVITIES**

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- 2022: **Co-organizer** and **Moderator** for the *2022 CMU K-12 Summit on AI for Social Good*
- 2021: **Co-organizer** and **Moderator** for the *2021 CMU AI and Social Good Symposium*
- 2021: **Reviewer** for the *Workshop on Human and Machine Decisions at NeurIPS 2021* (WHMD '21)
- 2019 – Present: **Maintainer** of the **Combinatorial Auction Test Suite**, a standard benchmark generator in auction research created by Kevin Leyton-Brown (<https://github.com/kevinlb1/CATS>)
- 2016: **Reviewer** for *Scientometrics* ([proof](#))

**INDUSTRIAL WORK EXPERIENCE**

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**SOFTWARE DEVELOPER CO-OP**

**Change Healthcare**

**Sep 2017 – Apr 2018**

- Worked with senior software developers to code, test, and deploy bug fixes and upgrades for two leading healthcare workflow products.
- Took on a primary role in researching, developing, and integrating an authentication service for inter-service communications, including a custom logging mechanism, using an open-source library in the .NET Core framework.

**AWARDS AND HONOURS**

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- 2022: **NSF Graduate Research Fellowship – Honourable Mention** for proposal "Large Scale Learning for Multi-Agent Communication & Coordination in Transportation"
- 2021: **Tang Family Endowed Innovation Fund** for proposal "Large Scale Learning for Multi-Agent Communication & Coordination in Transportation" (PI: Fei Fang)
- 2018, 2019: **NSERC Undergraduate Student Research Awards**
- 2016, 2017, 2019: **UBC Science Scholar & Dean's Honour List**
- 2016, 2017: **Microsoft Tuition Scholarship**
- 2016, 2018, 2019: **Trek Excellence Scholarship**
- 2016: **J. Fred Muir Memorial Scholarship in Science**