Cecilia Ying

Clinical Assistant Professor · Mgmt. Information Systems

Mitch Daniels School of Business, Purdue University

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Education

Smith School of Business, Queen's University *Kingston, ON*

Doctor of Philosophy - PhD, Analytics *2020 - 2025*

- Thesis: "Three Studies on the Practical Use of Advanced Machine Learning Techniques in Analytics"
- Specializations:
  Natural Language Processing - Large Language Models, Topic Modelling, and Conversation Analytics
  Machine Learning and Artificial Intelligence - Model Fairness, Discrimination and Biases, and Model Explainability

Smith School of Business, Queen's University *Kingston, ON*

Master of Science - MSc, Analytics *2019 - 2020*

- Thesis: "Improving the Classification Parity of Machine Learning Models through Subgroup Thresholds Optimization (STO)"

Smith School of Business, Queen's University *Toronto, ON*

Master of Management Analytics *2018 - 2019*

University of Waterloo *Waterloo, ON*

Joint Honours Bachelor of Arts, Applied Economics and Mathematics *1999 - 2004*

- Finance Specialization, Co-op

Research Interests Service Operations, Behavioral Operations, Analytics, NLP, Credit Risk Modelling

Teaching Interests AI and Machine Learning, Business Analytics, Operations Management, Risk Management

Publications

Jenkin, T., Kelley, S., Ovchinnikov, A., **Ying, C.**, 2023. Explanation Seeking and Anomalous Recommendation Adherence in Human-to-Human versus Human-to-Artificial Intelligence Interactions. ***Decision Science*** - Oct. 2024 **Authors listed in alphabetical order and have contributed equally.*

Submitted Manuscripts

Ying, C., Du, H., 2025. Policies for Mitigating Group Differences in Machine Learning for Credit Assessment. ***Management Science*** - Under Review

Refereed Conference Proceedings

Ying, C., Thomas, S., 2022. Label Errors in BANKING77. In Proceedings of the Third Workshop on Insights from Negative Results in NLP, pages 139–143, Dublin, Ireland. ***Association for Computational Linguistics (ACL)***.

Ying, C., Thomas, S., 2021. Improving Fairness in Credit Lending Models using Subgroup Threshold Optimization. In Proceedings of the Learning and Decision-Making with Strategic Feedback (StratML) workshop. ***Neural Information Processing Systems (NeurIPS)***.

Book Chapters

Purda, L., **Ying, C.**, 2022. Consumer Credit Assessments in the Age of Big Data. In Big Data in Finance: Opportunities and Challenges of Financial Digitalization (pp. 95-113). ***Springer International Publishing***. **Authors listed in alphabetical order and have contributed equally.*

Awards, Fellowships, Grants

2026	**Globalink Research Award**, Mitacs	*12,000*
2025	**Distinguished Professor for Teaching Excellence**, Mitch Daniels School of Business	
2021 - 2024	**Joseph-Armand Bombardier Canada Graduate Scholarships**, Social Sciences and Humanities Research Council (SSHRC)	*$105,000*
2020 - 2024	**Graduate Research Fellowship**, Mitacs Accelerate Award	*$100,000*
2023	**Alan R. Dennis Doctoral Award**, Smith School of Business	*$2,332*
2022 - 2023	**Melville S. Hatch Memorial Fellowship**, Smith School of Business	*$8,249*
2020 - 2023	**Graduate Research Fellowship**, Monieson Center Grant	*$63,000*
2019 - 2023	**School of Business Fellowship**, Smith School of Business	*$78,000*
2021 - 2022	**New PhD Student Research Excellence Award**, Smith School of Business	*$600*
2020 - 2021	**R. Samuel McLaughlin Fellowship**, Queen's University	*$10,000*
2020 - 2021	**D.D. Monieson Graduate Business Scholarship**, Smith School of Business	*$2,600*
2020 - 2021	**Graduate Entrance Tuition Award**, Smith School of Business	*$5,773*
2019 - 2020	**Queen's Graduate Award**, Queen's University	*$4,100*

Teaching Experience

2025 - 2026	**Introduction to AI (Undergraduate - MGMT 187)**, Course Developer and Instructor	*Purdue*
2025 - 2026	**Introduction to Mgmt. Info. Systems (Undergraduate - MGMT 382)**, Course Instructor	*Purdue*
2025 - 2026	**Visual Analytics (Master's - MGMT 590)**, Course Instructor	*Purdue*
2025 - 2026	**Unstructured Data (Master's - MGMT 598)**, Course Instructor	*Purdue*
2023	**AI Capstone Project (Master's - MMAI 847)**, Workshop Instructor	*Queen's*
2022 - 2023	**Natural Language Processing (Master's - MMAI 891)**, Guest Lecturer	*Queen's*
2022 - 2023	**Machine Learning & AI (Master's - MMA 869)**, Guest Lecturer	*Queen's*
2020 - 2021	**Machine Learning Certification (Postgraduate)**, Course Developer and Instructor	*York*

Professional Experience

Current	**Clinical Assistant Professor - MIS**, Mitch Daniels School of Business - Purdue University
2023-2024	**Consultant - Credit and Retail Risk Modelling Technologies**, Scotiabank
2018-2019	**Director - Exposure and Credit Analytics, Global Risk Management**, Scotiabank
2015-2018	**Consultant - Derivatives Trading, Risk and Regulatory Projects**, Scotiabank
2015	**Lead Business Solution Analyst - Treasury and Balance Sheet Management**, TD Securities
2012-2015	**Consultant - Credit Risk and Derivative Trading Platforms**, Scotiabank
2011-2012	**Associate VP - Product Master Environment**, Bank of America Merrill Lynch
2008-2011	**Manager - Derivatives Trading Platform**, Scotia Capital
2007-2008	**Sr. Business Analyst - Treasury and Securities Finance**, National Bank Financial
2004-2006	**Operations Control Analyst - Securities Lending Operations**, Royal Bank of Canada

Presentations

Conference Presentations

Ying, C., Yang, X., Macarrein, A., Batra, I., 2026. CORS/INFORMS International Conference.
Oral presentation: Define-Assess-Learn: Development of an AI Chatbot and Pilot Evaluation of Its Effects on Student Learning.

Ying, C., Thomas, S., 2024. Decision Science Institute (DSI) Annual Conference.
Oral presentation: Impact of Covert Dialectic Prejudice in Large Language Model.

Ying, C., Thomas, S., 2024. INFORMS Annual Meeting.
Oral presentation: Unpacking the Dynamics of Customer Experience in AI-Infused Service Workflows.

Ying, C., Thomas, S., 2024. CORS/INFORMS International Conference.
Oral presentation: Impact of Covert Dialectic Prejudice in Large Language Model in Operations.

Ying, C., Thomas, S., 2024. Production and Operations Management Society (POMS).
Oral presentation: Detecting and Mitigating Bias in LLMs

Ying, C., 2024. Production and Operations Management Society (POMS).
Oral presentation: Bias Mitigation for Financial Inclusion in Machine Learning Credit Assessment Models

Ying, C., Thomas, S., 2023. INFORMS Annual Meeting.
Finalist in Poster Competition: Improving Fairness in Machine Learning via Subgroup Threshold Optimization.

Jenkin, T., Kelley, S., Ovchinnikov, A., **Ying, C.**, 2023. Behavioral Operations Conference (BOC)
Oral presentation: Explanation Seeking and Recommendation Adherence in Human-to-Human versus Human-to-Artificial Intelligence Interactions.

Ying, C., Abuhay, T., Thomas, S., 2023. Production and Operations Management Society (POMS).
Oral presentation: Natural Language Processing for Understanding Customer Voices in OM.

Ying, C., Thomas, S., 2022. INFORMS Annual Meeting.
Oral presentation: Improving Conversation Analytics Through Hyperparameter Tuning with and Without Labels.

Ying, C., Thomas, S., 2022. CORS/INFORMS International Conference.
Oral presentation: Customer Insights Through Hierarchical Clustering: A New Methodology.

Ying, C., Thomas, S., 2022. CORS/INFORMS International Conference.
Oral presentation: Unsupervised Conversation Analytics.

Ying, C., Thomas, S., 2022. Association for Computational Linguistics Conference, The Third Workshop on Insights from Negative Results in NLP.
Poster presentation: Label Errors in BANKING77.

Ying, C., 2022. Vector Institute Research Symposium.
Poster presentation: Unsupervised Conversation Analytics.

Ying, C., Thomas, S., 2021. Conference on Neural Information Processing Systems (NeurIPS), Learning and Decision-Making with Strategic Feedback workshop (StratML).
Poster presentation: Improving Fairness in Credit Lending Models using Subgroup Threshold Optimization.

Ying, C., 2021. Vector Institute Research Symposium.
Poster presentation: Improving Fairness in Credit Lending Models with Machine Learning.

Invited Talks

Jenkin, T., **Ying, C.**, 2020. The International Conference on Information Systems (ICIS).
Invited talk at Practice Development Workshop: Artificial Intelligence - Beyond the Hype.

Service

Committees and Volunteering

2025 - 2026 **INFORMS Canadian Operations Research (CORS)**, President of Analytics SIG
2024 - 2025 **INFORMS Canadian Operations Research (CORS)**, Vice President of Analytics SIG
2022 - 2023 **Canada Research Chair - Search Advisory Committee**, PhD Student Representative
2022 - 2023 **Renewal, Tenure, and Promotion Committee**, PhD Student Representative
2021 - 2022 **Associate Dean (Research) - Search Advisory Committee**, PhD Student Representative
2021 - 2022 **Smith School of Business Research Committee**, PhD Student Representative
2021 - 2022 **New MSc & PhD Students Welcoming Seminar**, Analytics PhD Student Representative
2020 - 2021 **EDII research Committee**, PhD student representative
2020 - 2021 **EDII blue sky project adjudication committee**, PhD student representative
2020 **Equity, Diversity, Inclusion, & Indigeneity (EDII) Task Force**, PhD student representative

Peer Review

Association for Computational Linguistics (ACL)
Academy of Management (AOM)
Decision Science Institute (DSI)
International Conference on Information Systems (ICIS)
Neural Information Processing Systems (NeurIPS)

Professional Memberships

Association for Computational Linguistics (ACL)
Association for Information Systems (AIS)
Canadian Operations Research (CORS)
Decision Science Institute (DSI)
INFORMS
Production and Operations Management Society (POMS)

Conference Attendance

2026 **CORS/INFORMS International Conference**, Kingston, ON
2024 **Decision Science Institute (DSI)**, Phoenix, AZ
2024 **INFORMS Annual Meeting**, Seattle, WA
2024 **CORS/INFORMS International Conference**, London, ON
2024 **Production and Operations Management Society (POMS)**, Minneapolis, MN
2023 **Decision Science Institute (DSI)**, Atlanta, GA
2023 **INFORMS Annual Meeting**, Phoenix, AZ
2023 **Academy of Management (AOM)**, Boston, MA
2023 **Behavioral Operations Conference (BOC)**, Baltimore, MD
2023 **Production and Operations Management Society (POMS)**, Orlando, FL
2022 **INFORMS Annual Meeting**, Indianapolis, IN
2022 **CORS/INFORMS International Conference**, virtual
2022 **Association for Computational Linguistics**, Dublin, Ireland
2022 **Vector Institute Research Symposium**, virtual
2021 **Neural Information Processing Systems (NeurIPS)**, virtual
2021 **INFORMS Annual Meeting**, virtual
2021 **Vector Institute Research Symposium**, virtual
2020 **International Conference on Information Systems (ICIS)**, virtual
2019 **Neural Information Processing Systems (NeurIPS)**, Vancouver, BC
2019 **Toronto Machine Learning Summit (TMLS)**, Toronto, ON

References

Dr. Stephen Thomas (stephen.thomas@queensu.ca)
Executive Director (Analytics and AI Ecosystems), Distinguished Teaching Fellow of Management Analytics

Dr. Anton Ovchinnikov (anton.ovchinnikov@queensu.ca)
Professor and Distinguished Professor of Management Analytics

Dr. Lynnette Purda (purdal@queensu.ca)
Interim Dean, Professor & RBC Fellow of Finance