Linzi Xing

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EDUCATION

University of British Columbia Vancouver, BC
PhD in Computer Science; Supervisor: Prof. Giuseppe Carenini; GPA: 88%/100%. *Sept. 2018 – Now*

University of Colorado Boulder Boulder, CO
M.Sc. in Computer Science; Supervisor: Dr. Michael J. Paul; GPA: 3.88/4. *Aug. 2016 – May. 2018*

Soochow University Suzhou, CN
B.Sc. in Management Information System; Advisor: Prof. Li Zhang; GPA: 3.70/4. *Sept. 2012 – June. 2016*

University of Wisconsin Madision Madision, WI
Visiting student in Computer Science; GPA: 3.75/4. *Aug. 2015 – Dec. 2015*

PUBLICATIONS

- **Language Models for Dialogue Topic Segmentation: A Comparative Study**:
  Linzi Xing, and Giuseppe Carenini
  In submission

- **Decoding the Hidden Semantics of Videos: Multi-Modal Video Topic Segmentation with Dual-Contrastive Domain Adaptation**:
  Linzi Xing, Quan Hung Tran, Fabian Caba Heilbron, Franck Dernoncourt, Seunghyun Yoon, Zhaowen Wang, Trung Bui and Giuseppe Carenini
  In submission

- **TeX2Solver: a Hierarchical Semantic Parsing of TeX Document into Code for an Assistive Optimization Modeling Application**:
  Rindra Ramamonjison, Timothy TL Yu, **Linzi Xing**, Mahdi Mostajabdaveh, Xiaorui Li, Xiaojin Fu, Xiongwei Han, Yuanzhe Chen, Ren Li, Kun Mao and Yong Zhang
  In Proceedings of the 61st Annual Meeting of Association for Computational Linguistics - Demo (ACL 2023 - Demos)

- **Diversity-Aware Coherence Loss for Improving Neural Topic Models**:
  Raymond Li, Felipe Gonzalez-Pizarro, **Linzi Xing**, Gabriel Murray and Giuseppe Carenini
  In Proceedings of the 61st Annual Meeting of Association for Computational Linguistics - Short (ACL 2023 - Short)

- **Improving Topic Segmentation by Injecting Discourse Dependencies**:
  Linzi Xing, Patrick Huber, and Giuseppe Carenini
  In Proceedings of the 3rd Workshop on Computational Approaches to Discourse (CODI 2022).

- **Predicting Above-Sentence Discourse Structure using Distant Supervision from Topic Segmentation**:
  Patrick Huber*, **Linzi Xing***, and Giuseppe Carenini
  In Proceedings of the 36th AAAI Conference on Artificial Intelligence (AAAI-22).

- **Human Guided Exploitation of Interpretable Attention Patterns in Summarization and Topic Segmentation**:
  Raymond Li, Wen Xiao, **Linzi Xing**, Lanjun Wang, Gabriel Murray, and Giuseppe Carenini
  In Proceedings of the 2022 Conference on Empirical Methods in Natural Language Processing (EMNLP 2022).

- **Improving Unsupervised Dialogue Topic Segmentation with Utterance-Pair Coherence Scoring**:
  Linzi Xing, and Giuseppe Carenini
  In Proceedings of the 22nd Annual Meeting of the Special Interest Group on Discourse and Dialogue (SIGDIAL 2021).

- **Demoting the Lead Bias in News Summarization via Alternating Adversarial Learning**:
  Linzi Xing*, Wen Xiao, and Giuseppe Carenini
  In Proceedings of the 59th Annual Meeting of Association for Computational Linguistics - Short (ACL 2021 - Short).

- **Improving Context Modeling in Neural Topic Segmentation**:
  Linzi Xing, Brad Hackinen, Giuseppe Carenini, and Francesco Trebbi
  In Proceedings of the 1st Conference of the Asia-Pacific Chapter of the Association for Computational Linguistics (AACL 2020).

- **Multilingual Twitter Corpus and Baselines for Evaluating Demographic Bias in Hate Speech Recognition**:
  Xiaolei Huang, **Linzi Xing**, Franck Dernoncourt, and Michael J. Paul
  In Proceedings of the 12th Language Resources and Evaluation Conference (LREC 2020).

- **Evaluating Topic Quality with Posterior Variability**:
  Linzi Xing, Michael J. Paul and Giuseppe Carenini.
  In Proceedings of 2019 Conference on Empirical Methods in Natural Language Processing - Short (EMNLP 2019 - Short).

- **Diagnosing and Improving Topic Models by Analyzing Posterior Variability**:
  Linzi Xing, and Michael J. Paul.
  In Proceedings of the 32nd AAAI Conference on Artificial Intelligence (AAAI-18).

- **Exploring Timelines of Confirmed Suicide Incidents through Social Media**:
  Xiaolei Huang, **Linzi Xing**, Jed R. Brubaker, and Michael J. Paul.
  In Proceedings of the 5th IEEE International Conference on Healthcare Informatics (ICHI 2017).

- **Incorporating Metadata into Content-Based User Embeddings**:
  Linzi Xing, and Michael J. Paul.
  In Proceedings of the 3rd Workshop on Noisy User-generated Text (WNUT 2017).

WORK EXPERIENCE

- **Huawei Technologies Canada**   Burnaby, BC
  Associated Researcher Intern   *Jan. 2023 - Now*
    - Mentor: Zhenan Fan
    - Work on an intellengent system - Latex2Solver, designed to automatically convert optimization problems in Tex format into the symbolic format ready to be processed by solvers.
    - Work on training and evaluating Large Language Models' (LLMs) effectiveness on linear programming modeling.

- **Adobe System Canada**   Remote
  Research Scientist Intern   *Apr. 2022 - Dec. 2022*
    - Mentor: Quan Tran, and Fabian Caba
    - Chapter segmentation for YouTube videos in a multimodal manner through combining textual signals and much weaker vision signals from video transcripts and frames respectively.
    - Explore effective approaches to adapt video segmenters trained on YouTube to generate semantic timelines for long livestream videos (e.g., Behance livestream videos).

- **University of British Columbia**   Vancouver, BC
  Research and Teaching Assistant   *Sept. 2018 - Now*
    - Supervisor: Prof. Giuseppe Carenini
    - Propose new methodologies to improve the state-of-the-art topic segmentation models for monologue and dialogue textual data, by addressing (1) the weakness of local coherence modeling and (2) the data sparsity issue.
    - Explore the synergy between the two NLP tasks: discourse parsing and topic segmentation.
    - Introduce a novel technique to demote lead bias and make transformer-based neural summarizers do inference based more upon the sentence content semantics.
    - Preparing lab materials with SpaCy and NLTK, Holding office hours to help students to understand the basic algorithms, and to have a sense of how to learn computer science.

- **University of Colorado Boulder**   Boulder, CO
  Research Assistant   *June. 2017 - Sept. 2017*
    - Supervisor: Dr. Michael J. Paul
    - Propose novel methods to diagnose and improve the topic quality produced by LDA topic models through taking advantage of the fluctuation of Gibbs sampling.
    - Propose a novel topic evaluation metric for LDA-style topic models by exploiting the variability of topic posterior distributions.

Scholarships and Certificates

- [2020-2022] **President's Academic Excellence Initiative Ph.D. Award** (UBC)

- [2016] **Dean's List** (Soochow University)

- [2015] **Outstanding Undergrad Student Scholarship** (China Scholarship Council (CSC))

- [2014] **C.W. Chu Scholarship** (Top 1% Academic Excellence, Soochow University)

Skills

- **Programming Languages**: Python, MATLAB, Java

- **Frameworks and Tools**: PyTorch, TensorFlow, Keras, SciPy, Gensim (word embedding and topic modeling), SpaCy, NLTK, Git

- **Languages**: Chinese (Native), English (Proficient)