

# Chen (Cecilia) Liu

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## EDUCATION

**University of Toronto**, Toronto, Ontario, Canada

*M.A.Sc. in Electrical Engineering*

2011 – 2013

- Thesis: Probabilistic Siamese Networks for Learning Representations

**University of Toronto**, Toronto, Ontario, Canada

*B.A.Sc. in Mechanical Engineering, Graduated with Honours*

2006 – 2010

- Specialization: Mechatronics, Solid Mechanics

## RELEVANT EXPERIENCE

**Wattpad, (acquired by NAVER)**, Toronto, ON, Canada

*Staff Product & Research Data Scientist*

Oct 2020 – Dec 2020

*Senior Product & Research Data Scientist / Tech Lead*

May 2017 – Oct 2020

- Research emotion classification of narrative stories with BERT and representation over knowledge graph.
- Research representation learning on text with Seq2seq model on multilingual data via distance supervision, transfer learning, and multi-model/multi-task methods.
- Develop product-related machine learning models (such as smart-previewer, document classifier, topic models etc.) using state-of-the-art techniques such as Seq2seq, VAE, transformers, transfer learning, etc. for story narratives.
- Define content understanding related ML roadmap and mentor junior members across the organization.

**Spotify**, Boston, MA, USA

*Machine Learning Engineer*

Sep 2016 – May 2017

- Researched and developed machine learning models using deep learning and ranking methods for musical taste prediction from user behaviour.
- Supported cross-team NLP and machine learning research requirements.
- Facilitated cross-team and cross-office collaborations on various projects.

**Meta, (formerly Sciencescape, acquired by Chan Zuckerberg)**, Toronto, ON, Canada

*Data Scientist*

Mar 2014 – Aug 2016

- Research and developed domain-specific Named Entity Recognition (NER) and disambiguation systems for biomedical scientific publications using CRF, text embeddings, etc.
- Created annotated dataset for NLP tasks.
- Implemented data aggregation pipelines using MapReduce, Spark, HBase.
- Collaborated with cross functional team members on building domain specific ontologies.

## SELECTED PUBLICATIONS

Ganiev, A., Chapin, C., Andrade, A., **Liu, C.**, An Architecture for Accelerated Large-Scale Inference of Transformer-Based Language Models, *NAACL - Industry Track*, 2021

Andrade, A., **Liu, C.**, Graph Representation Learning via Adaptive Sampling, *Arxiv*, 2020

**Liu, C.**, Andrade, A., Osama, M., Exploring Multilingual Syntactic Sentence Representations, *EMNLP-Workshop on Noisy User-Generated Text*, 2019

**Liu, C.**, Osama, M., Andrade, A., DENS: A Dataset for Multi-class Emotion Analysis, *EMNLP*, 2019

**Liu, C.**, Probabilistic Siamese Networks for Learning Representations, Master's Thesis, University of Toronto, 2013

Price, A, Gillen, T., **Liu, C.**, O'Shaughnessy, C.A. and Naguib, H.E., Influence of Porous Membrane Core Morphology on Polypyrrole Trilayer Actuator Performance, Journal of Cellular Plastics, 2011

Price, A., **Liu, C.**, O'Shaughnessy, C. and Naguib, H.E., Characterization, modeling and application of conductive polymer trilayer actuators for biomimetic robotics. CANSMART 2008, International Workshop Smart Materials and Structures. Montreal QC, CA, Oct. 23-24, 2008

<b>TEACHING</b>	<i>Electrical Fundamentals, Tutorial, University of Toronto</i>	2011
<b>EXPERIENCE</b>	<i>Fundamentals of Computer Programming, Lab, University of Toronto</i>	2010
	<i>Grade 12 Physics, William International College</i>	2007
	<i>Grade 12 Chemistry, William International College</i>	2007
<b>OTHER</b>	Reviewer for ACL and EMNLP	2019-Present
<b>ACTIVITIES</b>	Toronto Women in Data (part of TMLS Annual Conference)	Mentor, 2019
	Toronto Women in Data Science Conference	Invited Talk, 2019
	Vector Institute Endless Summer School	Invited Talk, 2018
	Google Go North	Industry Mentor, 2017
	Graduate Student Union, University of Toronto	Student Representative, 2012-2013
<b>AWARDS</b>	<i>NSERC Undergraduate Summer Research Scholarship</i>	2009
	<i>NSERC Undergraduate Summer Research Scholarship</i>	2008
	<i>General Motor of Women in Electrical and Mechanical Award, University of Toronto</i>	2006-2009
	<i>Faculty of Applied Sciences and Engineering Admission Scholarship, University of Toronto</i>	2006
	<i>Mechanical and Industrial Engineering Admission Scholarship, University of Toronto</i>	2006
<b>SKILLS</b>	Tensorflow, PyTorch, Python, Java, C/C++, PySpark, MapReduce, Git, LaTeX, Mechanical Turk, BRAT	