Utsav Das

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EDUCATION

University of Waterloo, School of Computer Science, Waterloo, Canada Sep 2019 – Feb 2022
Master of Mathematics (Thesis) - MMath, Computer Science GPA: 87/100 (3.93/4)
Thesis: Disentanglement of Syntactic Components for Text Generation

University of Mumbai, India Jul 2015 – Jul 2019
Bachelor of Engineering – BE, Information Technology GPA: 8.72/10

SKILLS

- **Languages:** Python, C/C++, Bash
- **Tools and Frameworks:** PyTorch, Keras/Tensorflow, Git, NLTK, spaCy, Gensim, NumPy, Pandas, Scikit-learn, LaTeX
- **Databases:** MongoDB, SQL
- **Graduate Coursework:** Deep Learning and NLP, Reinforcement Learning, Privacy and Fairness in Data Science, AI: Law, Ethics and Policy

EXPERIENCE

Natural Language Processing (NLP) Research Lab, University of Waterloo Feb 2022 - Present
Research Assistant

- Developed a variational autoencoder with graph convolutional networks for creative text generation while controlling syntactic components.

Disentanglement of Syntactic Components for Text Generation Apr 2021 – Dec 2021

- Developed graph convolutional neural networks with a Seq2Seq model on the SNLI dataset to generate sentences while controlling syntactic components from multiple sentences.

Manulife Financial May 2020 – Mar 2021
Graduate Student Researcher

- Implemented BERT-based methods and graph convolutional networks to perform aspect-based sentiment analysis. Evaluated the methods on the Laptop and Restaurant Reviews datasets and the US Financial News Articles dataset.
- Evaluated different topic modelling methods for short text on the StackOverflow and Switchboard datasets. Delivered a modularized implementation of the methods to Manulife for use on their proprietary data.

Measuring and Mitigating Unintended Bias Oct 2019 – Dec 2019

- Measured impact of identity terms in text on bias in hate speech detection models.
- Implemented bias mitigation strategies such as identity term removal and data augmentation to reduce false negatives. Bias reduction and accuracy remained competitive with state-of-the-art approaches.

Mastek Ltd Jun 2018 – Jul 2018

- Developed an information bot with Node.js, MongoDB and, Microsoft Azure's Cognitive Services to answer questions about the company's HR policies.

Project Deep Blue Oct 2017 – Feb 2018
Student Developer

- Participated in Season 3 of Project Deep Blue to build an automated tool that helps non-profits find prospective volunteers on Twitter. Used topic modelling and network analysis to recommend relevant people.

TEACHING ASSISTANT EXPERIENCE

- CS 135 - Introduction to Computer Science – Designing Functional Programs, Fall 19, University of Waterloo
- CS 136 – Elementary Algorithm Design and Data Abstraction, Winter 20, University of Waterloo
- CS 341 – Algorithms, Spring 20, Fall 20, Winter 21, University of Waterloo
- CS 116 – Introduction to Computer Science 2, Spring 21, University of Waterloo

ACHIEVEMENTS AND EXTRACURRICULARS

- Received International Master's Award for Excellence and Graduate Research Studentship.
- NLP Reading Club - Discussed papers with students on current NLP topics like Style Transfer and Transformer-based architectures like Longformer, Reformer, etc.
- UWaterloo Book Club – Read and discussed works of fiction and non-fiction. Continued reading during the pandemic with the Waterloo Public Library.
- Represented my undergrad college in debates, Model United Nations, and other public speaking events.