Ahmad Shikib Mehri

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SUMMARY

My objective is to pursue a Ph.D. in Computer Science with a focus in deep learning and natural language processing. I am motivated to work on impactful and technically challenging research problems.

EDUCATION

B.Sc. Honours Computer Science, September 2013 - May 2018
University of British Columbia, Vancouver, BC

- Cumulative average in Computer Science courses: 91.1%
- Selected coursework:
  - Machine Learning and Data Mining, Intelligent Systems, Advanced Algorithms Design and Analysis, Computer Vision

Early Entrance to University, September 2011 - June 2013
University Transition Program, Vancouver, BC

- Completed five years of high school in two years as one of 20 students to attend this rigorous, highly-accelerated program.
- Graduated high school and subsequently entered university at the age of 15.

PUBLICATIONS

- **Shikib Mehri**, Giuseppe Carenini. *Chat Disentanglement: Identifying Semantic Reply Relationships with Random Forests and Recurrent Neural Networks (IJCNLP).* 2017.

RESEARCH EXPERIENCE

Video Caption Generation September 2017 - Present
Computer Science Department, UBC
Supervisors: Profs. Leonid Sigal & Giuseppe Carenini

- Currently doing research in video caption generation, particularly concerned with novel strategies for natural language generation.
- Developed novel modifications for sequence-to-sequence architectures, theorized through thorough analysis of existing methods. Preliminary experimentation has shown promising results against baselines.

Chat Disentanglement August 2016 - Present
Computer Science Department, UBC
Supervisor: Prof. Giuseppe Carenini

- Completed my honours thesis with Dr. Giuseppe Carenini on the problem of thread disentanglement in multiparticipant chats.
- Leveraged novel strategies, including identifying direct reply relationships between messages with the aid of a weakly supervised dual-encoder LSTM, to attain state of the art results.
- First author publication accepted to IJCNLP 2017 to be presented as a talk.

- Since publication, I have been developing improvements to the dual-encoder LSTM used in the project by adding an attention mechanism, encoding inputs with ConvNets and am currently working on applying tree-LSTMs to the task.

Genome Graph Model August 2016 - Present
Wasserman Lab, Centre for Molecular Medicine and Therapeutics
Supervisors: Prof. Wyeth Wasserman, Alice Kaye

- Worked as a bioinformatics research assistant in the Wasserman Lab, on the development of novel algorithms for DNA sequence alignment on a graph based representation of a genome.
- Implemented complex bioinformatics algorithms to run efficiently on consumer-grade hardware.

INDUSTRY EXPERIENCE

Research Scientist Intern May 2018 - August 2018
Amazon (Sunnyvale, CA)

- Accepted a graduate research position on the Conversational AI team, working on making Alexa conversational, at Amazon Lab126.

Machine Learning Consultant June 2017 - Present
Vancouver, BC

- Performed consulting and freelancing services for numerous projects in the realm of deep learning and natural language processing.
- Advised numerous international customers on applications of machine learning and natural language processing for their business needs.
- Implemented custom deep learning solutions for applications such as stock price prediction and information extraction.

Data Scientist Intern June 2017 - September 2017
Microsoft (Redmond, WA)

- Worked on the Windows Feedback Analysis team, part of the Windows Core Data organization.
- Designed and implemented a deep learning based semantic similarity model for the purposes of feedback clustering.
- Implemented an LSTM sequence-to-sequence architecture for the purposes of the abstractive summarization of feedback text. The architecture was shown to be extremely effective through qualitative analysis.
- Developed a generic and re-usable framework for applying state of the art deep learning strategies to language understanding problems. I applied the framework to the problem of classifying customer feedback into feedback-types (e.g., suggestion, problem, complaint) and outperformed existing methods.

Software Engineering Intern January 2017 - March 2017
Facebook (Menlo Park, CA)

- Worked on the Translation team, part of the Applied Machine Learning organization.
- Responsible for the development of numerous subword Neural Machine Translation models. I implemented various algorithms for learning language-specific subword vocabularies, segmenting an input into subwords and reconstructing an output from subword units.

- Ultimately, improved the quality of translations on Facebook by 2+ BLEU for certain language directions.

Co-Founder and Chief Technology Officer October 2015 - July 2017
IntelliMed (Vancouver, BC)

- Co-founded a startup to utilize technology to improve various pharmacy workflows, obtaining funding at a $750,000 valuation.
- I led developers in building an application which fully automates the process of writing pharmacy medication reviews for patients.

Software Engineering Intern May 2016 - July 2016
Facebook (Menlo Park, CA)

- Worked on the Ads Targeting Modeling team developing algorithms to generate and evaluate user-interest mappings given data on user-page interactions.
- Constructed an incredibly accurate classification model to predict the appropriate categorization of a given interest.

Software Engineering Intern September 2015 - December 2015
Arista Networks (Vancouver, BC)

- Implemented functionality to detect incorrectly configured network switches.
- Developed strategies to change assignment strategies for linerate capable ports in order to decrease downtime.

TEACHING

Technical Interview Workshop Facilitator May 2017 - Present
Computer Science Co-op Office & ECESS Student Society

- Ran numerous technical interview workshops for the Computer Science Co-op program and the Electrical and Computer Engineering Science student society teaching students strategies for solving algorithmic problems in an interactive learning environment.

Teaching Assistant September 2014 - December 2016
Computer Science Department, UBC

- I have worked as an undergraduate teaching assistant for 6 terms for the following courses: Relational Databases (CPSC 304), Operating Systems (CPSC 313), Computer Systems (CPSC 213) and Introductory Programming (CPSC 110).
- My responsibilities include lecturing sections ranging from 15 - 40 students, holding office hours, invigilating exams and grading course materials.

AWARDS

(Nominated) CRA Outstanding Undergraduate Researcher Award (2018)
Trek Excellence Scholarship for Continuing Students (2017)
Charles and Jane Banks Scholarship (2017)
Science Scholar Distinction (2017)
Dean's Honors List (2014 - 2017)
British Columbia Achievement Scholarship (2014)
Chancellor's Scholar Award (2013)
Canucks Education Scholarship (2013)

ACHIEVEMENTS

3rd Place, Lumohacks – Mental Health Hackathon (2017)
Finalist, DataSense Salary Prediction Competition (2017)
Winner, Telus/IEEE Datathon (2016)
2nd Place, Microsoft Machine Learning Competition (2016)
3rd Place, ACM-ICPC Division II PacNW Regionals (2016)
Winner, DubHacks RapidAPI Sponsor Prize (2016)
6th Place, Microsoft College Code Competition (2016)
4th Place, DataSense VanData Competition (2015)

SELECTED PROJECTS

LSTM Chat Simulator

- Developing attention sequence-to-sequence LSTM model for the simulation of chat messages. The model, written in PyTorch, outputs a potential reply given a sequence of messages. Currently in the process of deploying the trained model as a Telegram bot for use in multi-participant chats.
- The code, in progress, for the model can be found at https://github.com/Shikib/rnn_chat_simulator.

SaferSurrey

- Utilized machine learning in combination with crime data to identify the safest route home through dangerous parts of the city. Won the Telus/IEEE Datathon and was awarded $3000 in addition to the opportunity to pitch to the Surrey RCMP.

CMPR

- Using natural language processing, I developed CMPR at Dubhacks 2016, a browser extension that makes any webpage more accessible to those who may have difficulty reading standard text. CMPR colors text dependent on the part of speech, captions images and generates concise summaries of the webpage using a custom algorithm (based on TF-IDF).
- Won the RapidAPI sponsor prize for the development of CMPR over the course of a hackathon.
- The code can be found at https://github.com/awoopa/cmpr.