## **EDUCATION**

### Honours Bachelor of Science at University of Toronto, St. George Campus

* Majors in Computer Science and Linguistics

## **TECHNICAL SKILLS**

* Programming: Python (including NLTK), Java, basics in C/C++
* Web: JavaScript/jQuery, React, Bootstrap, Node.js, CSS, REST
* Markup
  + State Chart: SCXML
  + Web: HTML
  + Grammar: GRXML, GSL
* Database: SQL
* Version Control: Git
* UX Speech/Digital Design: XMind, Visio
* Agile software development methodology
* Basic machine learning understanding

## **RELEVANT WORKPLACE SKILLS**

* Punctual, organized, adaptive, detail oriented
* Strong problem-solving skills
* Cooperative with staff and clients
* Able to work individually or in a team setting

## **WORK EXPERIENCE**

### Application Developer / UX Conversational Designer at [24]7.ai July 2019++

* As part of a full stack architecture for digital chat bot applications:
  + Developed SCXML applications
  + Built backend functionality in Node.js
  + Wrote test cases in Mocha.js
  + Maintained existing applications
* Collaborated with Data Scientists, UX Conversational Designers, and clients to create said applications
* Covered responsibilities pertaining to UX Conversational Design – outlined on the next page

### UX Conversational Designer at [24]7.aiJuly 2018-July 2019

* Designed logic decision trees (in XMind and Visio) to represent natural language conversations between chat bots and users
* Implemented and discovered best practices of human-computer interaction based on human psychology and cognition (e.g. Grice’s maxims, cognitive load)
* Worked with software developers and data scientists to translate decision tree designs into finite state machine chatbot applications (SCXML)
* Wrote natural language grammars (in GRXML/GSL) to accurately match user input for IVR applications
* Maintained SQL databases
* Put together analytical reports, for clients, of the company’s product solutions – gave insights on potential improvements/optimizations
* Worked closely with multiple fortune 500 clients to create chat bot design solutions for their businesses – led and scheduled meetings, presented ideas, and demonstrated designs
* Attended UX Design Leadership conference: https://designleadership.io/

### E-Classroom Victoria University in the University of Toronto Jan 2014-May 2018

* Assisted students with any computer related issues (i.e. troubleshooting)
* Monitored activities of students in the electronic classroom lab for designed use of computer equipment
* Upheld a neat classroom environment and preserved equipment functionality

## **VOLUNTEERING**

### North York Community House 2011-2012

* Educated elderly individuals in computer technology to stay connected with their family and friends

## **PERSONAL PROJECTS**

### Natural Language Prediction in Python 3.7.2

* https://github.com/alexchernous/NaturalLanguagePrediction
* Used Markov Model theory to implement nth order Markov Chains for single word predictions, sentence generation, and sentence completion
* Trained n-gram word models, from literature, for prediction algorithms (free literature resource: https://www.gutenberg.org/)
* Wrapped the program in a simple GUI (tkinter)

## **UNIVERSITY PROJECTS**

### Team Project; Software Engineering at UofT

* Collaborated with six members to develop a time management application for students
* Coded frontend and backend components in Java (Android Studio)
* Google Firebase API was used to implement user data storage
* Applied Agile development cycle to efficiently divide workload and complete tasks on time
* Utilized Git/Github version control to contribute to the project and maintain code

### Individual Project(s); Computational Linguistics at UofT

* Implemented the Lesk algorithm to correctly assign sense meaning to nouns in a sentence of a given string (Python/NLTK - WordNet)
* Used the Hearst algorithm to search through a given corpus and find hyponym-hypernym relations between nouns in each sentence (Python/NLTK - WordNet)

### Individual Project(s); Natural Language Processing at UofT

* Sentiment analysis in Python. Analyzed tweets (Twitter) on a positive-negative scale with the use of WEKA.
* Rudimentary Speaker Identification and Speech Recognition in MATLAB using Gaussian Mixture Models and Hidden Markov Models respectively.