Ze Yuan(Bill) Li

LinkedIn | GitHub
zl344@cornell.edu | 914.704.5638 | New York, NY

EDUCATION

CORNELL TECH
MS in Information Systems
Major: Health Technology
Expected in Jun 2023 | New York, NY
GPA: 4.00

UNIVERSITY OF WATERLOO
WILFRID LAURIER UNIVERSITY
Dual Degrees in BMath and BBA
Major: Statistics and Actuarial Science
Jun 2016 | Waterloo, ON
GPA: 3.60

SKILLS

PROGRAMMING
Over 5000 lines:
C++ • Python (PyTorch, Tensorflow, Librosa, Pandas, Numpy, Scikit, BioPython) • LaTeX • Pyspark
Over 1000 lines:
C • Shell • Java • MySQL • HTML

MACHINE LEARNING
SVM • Gradient Boosting • MLP • CNN
RNN • LSTM • VAE • Energy Model
Flow Model • GAN • Transformer

TOOLS
Microsoft Azure • Databricks • Google Cloud • Google Colab • Tableau • Canva
Figma • Miro • Lucidchart

CERTIFICATION

Fellow of the Society of Actuaries

AWARDS

2023	Cornell Hackathon Most Inclusive Solution
2022	Human Performance Hackathon Finalist
2021	Cornell Tech Merit Scholar
2016	Graduated with Distinction
2010	Descarte's Scholarship

COURSEWORK

GRADUATE
Digital Health Law
Deep Probabilistic Model
Deep Learning
Data Science in the Wild
AI in Healthcare
Applied Machine Learning
Health Tech, Data, and Systems

EXPERIENCE

OPTUM LABS | Digital Signals/Data Science Researcher
Jun 2022 - Present | New York City, NY

- Evaluating and analyzing digital signals from continuous glucose monitor, Fitbit, drugs, and claims in improving the management of type 2 Diabetes (T2D)
- Extracting, cleaning, and transforming a large (165GB) multi-modal dataset using Databricks, Python, Spark, SQL, and Pandas; Providing data insights via Tableau visualization
- Formulating and testing various hypotheses on principal drivers of T2D improvement/worsening using linear regression, gradient boosting regression, linear mixture model, and deep learning models
- Drafting invention disclosure for patent submission; Summarizing research findings and submitting to top journals/conferences

MOODY'S ANALYTICS | Assoc. Director - Software Developer
Jul 2016 - Jul 2021 | Toronto, ON

- Engineered back and front-end functionalities for the Universal Life (UL) module of **AXIS** software via C++, HTML, Access, and internal tools
- Led development in US regulatory insurance functionalities such as level premium solver and secondary guarantee reserving
- Liaised with clients and drafted business and technical specifications that outlined AXIS deliverable and system design road-map
- Managed and empowered interns, and junior actuaries to complete high-impact projects
- Improved AXIS' functionalities through code and help-text clean-up; Maintained software performance and calculation integrity through bug fixes and code cleanup
- Founded company's Toastmasters club; Advocated the importance of addressing mental health at work and managed programs to improve mental health awareness

RESEARCH

AUGMENTING PASSIVE SENSING SIGNALS FOR MENTAL ILLNESS DETECTION | Researcher
Dec 2021 - Present | New York, NY

- Researching the usability of Fitbit's digital signals in predicting depression progression among medical residents
- Applying regression, XGBoost, and MLP models for prediction of depression development on Azure VM Clusters
- Using Pandas, Numpy, and Sci-Kit Learn, comparing basic augmentation methods (jittering, scaling) vs. more advanced ML generative methods (GAN)

PROJECT

KNOWLEDGE-GRAPH AUGMENTED ABSTRACTIVE SUMMARIZATION FOR IMPROVING FACTUALITY | Paper
Feb 2022 - Jun 2022 | New York, NY

- Summarized the CNN/Daily Mail dataset with a pre-trained transformer model augmented by an external knowledge graph to improve factuality
- Evaluated model produced summary with both fluency metrics (ROUGE, BERTScore) and factual metric (FactCC) using PyTorch

EMOTION AUDIO RECOGNITION | GitHub
Sep 2021 - Dec 2021 | New York, NY

- Programmed and trained ML models in Tensorflow to predict emotion states of 7000 audio clips; CNN model achieved 52% accuracy (12% above human performance) using a combination of features from the spectrogram, MFCC, and chroma_stft implemented with the Librosa package