# Liu Jason Tan

Website: LiuJasonTan.com • LinkedIn: linkedin.com/in/liujasontan
E-mail: liuta@umich.edu • GitHub: https://github.com/ljtan

## Education

- **Master of Applied Data Science** *(Expected August 2022)* GPA: **4.00** /4.00
  University of Michigan – School of Information, Ann Arbor, Michigan
  Relevant Courses: *Data Mining, Big Data, Databases, Supervised Learning, , Unsupervised Learning, Applied NLP, Causal Inference, Information Visualization*
- **Bachelor of Science in Information Systems, Cum Laude** *(May 2020)* GPA: **3.64** /4.00
  Stony Brook University, Stony Brook, New York

## Professional Experience

- **Poisera – Data Analytics Intern** *(June 2021 – August 2021)*
  Performed **web scraping** and utilized **APIs** to access public data for analysis, automated **data collection** to update the company database, identified key product insights to inform company road map and improve customer satisfaction
- **Stony Brook University – Senior Computer Specialist** *(October 2017 - May 2020)*
  Assisted computer users with technical issues remotely and at workstations by **communicating** to non-technical users, **problem-solving**, and providing excellent **customer service**

## Skills

- Programmed in C, HTML, CSS, Java, R, **SQL**, **Spark**, and **Python** (with libraries such as **Numpy**, **Pandas**, **Keras**, TensorFlow, SciKit Learn, Altair, Matplotlib, **Pyspark**, NetworkX**,** and **NLTK**)
- Constructed models with supervised and unsupervised **machine learning algorithms** such as **deep neural networks**, **classification**, **clustering**, dimensionality reduction**,** and **regression**
- Familiar with Data Mining concepts such as Apriori, **Hidden Markov Models**, Fourier Theorem, Dynamic Time Warping, **ARIMA**, Reservoir Sampling, Bloom Filter, and Lossy Counting
- Implemented **Natural Language Processing** (NLP) methods such as **Word2Vec**, **WordNet**, **Part-Of-Speech Tagging**, **LSTM,** and **BERT** for sentiment analysis and word-sense disambiguation

## Recent Projects

- **My Voice Data Challenge (2021)**
  - Awarded **first place** for the data challenge, using **Natural Language Processing** (NLP) to analyze text message sentiment regarding the Coronavirus which can affect public policy
  - Streamlined the **lemmatization**, text **encoding,** and **hierarchical clustering** (**BERT**) processes, which creates reproducible results and can be scaled to other short-text data
- **S&P 500 Stock Performance Forecasting and Sector Clustering (2022)**
  - Performed **data cleaning** (filling missing values and normalization), **feature engineering**, exploratory data analysis, and data manipulation for machine learning
  - Determined the optimal cluster of stocks using **k-means**, **agglomerative** clustering, and **affinity propagation** by evaluating these methods on three metrics
  - Classified stocks into top 100 and bottom 100 performing stocks using multiple models with accuracy up to 65% by **tuning hyper-parameters**