Email: tobbylie@gmail.com

Tobby Lie

Website: tobbylie.com

Github: tobby-lie
Linkedin: Tobby Lie

Education

Denver, Colorado **University of Colorado Denver** **May 2021 | August 2022**

- MS in Computer Science. GPA: 4.0

Denver, Colorado **UCDenver** **May 2017 | May 2021**

- BS (BS/MS Dual Scholars Program) in Computer Science. GPA: 4.0

Employment

Developer/Research Asst. **CDOT/UCDenver - BDLab** **June 2020 – Present**

- Designing an end-to-end **system architecture** for a data-driven bridge asset management service.
- Packaging solution into a service utilizing **Github Actions**, **MongoDB**, **MLFlow** and **Docker**.
- Curated, prepared, and integrated raw datasets pulled from multiple sources using **Python**.
- Developed and evaluated neural network models in **Tensorflow** for multi-variate time series forecasting.

Developer/Research Asst. **NSIDC/UCDenver - BDLab** **May 2021 – Present**

- Designing an end-to-end **system architecture** for data-driven ice type classification.
- Utilizing **object-oriented** practices in **Python** to implement classes for image classification.
- Creating a parallel and distributed input/training pipeline for a large multi-source image dataset using **tf.data** and **tf.distribute**.

Developer/Research Asst. **UCDenver - BDLab** **May 2021 – Present**

- Running BERT-based language models on an XSEDE allocation to extract pre-trained model embeddings.
- Bench-marked BERT-based language models for usage with biological sequence alignment.

Software Engineer Intern **Comcast** **June 2020 – August 2020**

- Virtual Development Experience Technology and Engineering Track.
- Online internship program.
- Received Comcast NBCUniversal Virtual Development Experience Certificate

Developer/Research Asst. **UCDenver - ACID Lab** **Fall 2019 – May 2021**

- Implemented data-driven methods in **Jupyter notebooks** to train classifiers and topic modelers on multi-modal data to serve the purpose of polarization intent detection in a dataset of IRA ads.
- Automated data collection of tweets for campaign analysis utilizing Tweepy with the Twitter API.

Personal Projects

- **Mushroom Edibility Classification Website.** Leveraged mushroom edibility data from **Kaggle** to deploy a web service for classification of mushroom edibility using **Flask**, **Dash**, **Tensorflow**, **AWS**, and **Docker**. Accessible here: **capattack.net**

Technical Skills

- Languages: C++, Python
- Frameworks and Libraries: Tensorflow, Pandas, Sklearn, Numpy, Matplotlib, Seaborn
- Tools: Git, Github, Windows, MacOS, Linux, Docker, MLFlow, Jupyter Notebook, VSCode, Conda

Achievements

- TrueFact in conjunction with KDD 2020 Publication for "Multi-Modal Classification for Polarization Intent Detection in Social Media" (2020)
- Comcast NBCUniversal Virtual Development Experience Certificate (2020)
- Research and Creative Activities Symposium 1st Place in "Tech, Engineering, and Math" Division (2020)
- Undergraduate Research Opportunity Program Grant (2019)
- Dean's List: (2017 - 2021) University of Colorado Denver