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Tobby Lie
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Education

Denver, Colorado	University of Colorado Denver	May 2021 August 2022
<ul style="list-style-type: none">MS in Computer Science. GPA: 4.0		
Denver, Colorado	UCDenver	May 2017 May 2021
<ul style="list-style-type: none">BS (BS/MS Dual Scholars Program) in Computer Science. GPA: 4.0		

Employment

Developer/Research Asst.	CDOT/UCDenver - BDLab	June 2020 – Present
<ul style="list-style-type: none">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
<ul style="list-style-type: none">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
<ul style="list-style-type: none">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.		
Developer/Research Asst.	UCDenver - ACID Lab	Fall 2019 – May 2021
<ul style="list-style-type: none">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, 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)