Xianchen Yang

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EDUCATION

University of Michigan - Ann Arbor (UMich) Ann Arbor, US
- **Major:** *Computer Science, Data Science (Honor) and Statistics(Honor)*, **Minor:** *Mathematics* 2021.01-Present
- Overall GPA: **3.878/4.0**, GPA (STAT): **3.970/4.0**, GPA (DS): **3.905/4.0**
- **Awards**: University Honor Student for every academic year (2021, 2022)

Boston University Boston, US
- **Major:** *Mathematics and Computer Science*, GPA: **3.81/4.0** 2019.09-2020.12
- **Awards**: Dean's list for every term in 2019Fall, 2020Spring & 2020Fall

Shanghai Jiao Tong University Shanghai, CN
- *Winter Exchange and Summer Challenge Camp program* 2021.01-2021.07

RESEARCH PROJECTS

Predicting Chronic Hepatitis B (CHB) Disease Progression in Africa with AI/ML Ann Arbor, US
Research assistant for the e-HAIL-funded Project, advised by Prof. Ji Zhu and Prof. Akbar K. Waljee 2022.05-present
- Acted as a member of a 7-person team to construct a model to predict whether African people need to receive CHB treatment in one year based on viral load and fibrosis, hemoglobin, BMI, family history, etc
- Developed a model to predict how much time a patient will get CHB and receive treatment based on lab results
- Applied Random Forest, Adaboost, Decision Tree and logistic regression to predict CHB progression with 86% AUROC
- Postered presentation in e-HAIL Symposium: Artificial Intelligence and Health and 2022 AI Symposium respectively

Inference of Speciation Patterns from Extant Birth-death Trees Ann Arbor, US
Research Assistant, advised by Postdoctoral Brandon Legried 2021.12-Present
- Derived consistent estimators and rates of convergence for old and new models and validated results with simulations using Python; Wrote Python script to generate birth-death trees and input different sets of data to validate the theory of identifiability; Edited Python function to estimate extinction and birth rate of phylogenic tree simultaneously
- Attempted to quantify the fitting extant rate and birth rate of the phylogenic tree
- Assisted Brandon Legried in finishing the paper: *A class of identifiable phylogenetic birth-death models on BioRxiv, the Preprint Server for Biology*

A Deep Learning Approach for Mortality Prediction with ICD-9 Code Ann Arbor, US
Research assistant, advised by Professor Ji Zhu 2022.05-Present
- Devised and implemented a new ML algorithm combing supervised and unsupervised loss specialized for ICD9 Code
- Utilized the algorithm to create a model for ICD-9 code to predict whether the patient will die after discharge from the hospital for one year (Tensorflow, Keras, Sklearn etc.); Used the skip-gram model and CNN for the supervised learning and achieved an AUROC of 86%
- Worked on the honor Thesis: *A deep learning approach for Mortality Prediction with ICD-9 Code*

COURSE PROJECTS

The Development of Recipe Recommendation App (EECS 497 Human-Centered SW) 2022.09-2022.12
- Build up an iOS app that can tailor recipes to persons with specific needs; Used data from Kaggle and applied collaborative machine learning (ML) techniques to create the recommendation system; Created the app's user interface using Figma, then built it using Xcode

"Asteroids" web game (EECS 493 User Interface Dev) 2022.09-2022.10
- Used JavaScript, HTML and CSS to create a digital Asteroid game

Model Building in Predicting Financial Dataset (STATS 415 Data Mining) 2021.09-2021.11
- Utilized R to eliminate outliers of the financial dataset and conducted a bootstrap simulation to estimate variance
- Determined Linear Regression method to build the model by comparing MSE of SVM, Random Forest, PCR and Clustering

INTERNSHIP EXPERIENCE

Data Engineer, **Suzhou Big Data Research Center, Suzhou, China** 2021.11-2022.01
- Extracted data from high-tech companies located in Suzhou and proceeded with data consolidation using Python
- Utilized MySQL to create the Suzhou Talent database

IPO Assistant, **Orient Securities Investment Banking Co., Ltd., Shanghai, China** 2021.06-2021.09
- Deployed software Wind to collect data and used R to form a graph to analyze data for due diligence
- Used Qichacha and Wind to write financial statement analysis for Donglai Coating Technology
- Assisted in conducting oversea asset acquisition by using Wind

EXTRACURRICULAR ACTIVITY:

- President, Chinese Undergraduate Student Association, UMich (2020.12-Present)
- Tutor for STATS 250, STATS 425, STATS 412 and EECS 183, CSP Peer Instruction, UMich (2022.10-2022.12)

ADDITIONAL

- **Language:** Chinese (Native), English (Native), French (intermediate)
- **Programming language:** Python (3 yrs), JavaScript(2 yrs), Java (3 yrs), C++ (2 yrs), R (3 yrs), SQL, MongoDB
- **Framework & libraries**: Numpy, Pandas, Matplotlib, TensorFlow, Sklearn, Keras, Pytorch
- **Certificate:** The Securities Qualification Certificate (SAC), 2021.04
- **GRE:** 334 (V 164, 94%/ Q 170, 96%/ AW 4.0, 54%), 2022.10
- **Interests:** Piano (Level 10), Violin (level 5), Latin dance, Chinese painting(Level 7), Guzheng (Level 7)