

Ziqi Xu

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Education

Washington University in St.Louis

St.Louis, MO

- Ph.D. Candidate in Computer Science and Engineering GPA 4.00/4.00 Aug 2022-2027(expected)

Washington University in St.Louis

St.Louis, MO

- BS, Double Major in Computer Science & Math GPA 3.99/4.00 Sep 2019-May 2022
 - Honors/Awards: Dean's List (2020,2021,2022), Dean's Selected Fellowship(2022)
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Research Experience

Multi-task Recovery Prediction After Lumber Spine Surgery

Saint Louis, MO

Multitask prediction, EHR, mobile technology, wearable devices

Apr 2022-Present

- Predict five clinical outcomes with pre-operation data collected by medical records, EMA questionnaires, wearable devices, and DSEM features for patients underwent lumber spine surgery
- Utilized Task-wise Gradient Boost Tree to train a unified multitask model and investigate task relationships, clinical feature importance by average gain to assist clinicians

Predict treatment effects of ECMO and mortality in COVID-19 patients

Saint Louis, MO

Treatment effects, Deep Learning

Apr 2021-May 2022

- Extracted features of interest, performed slicing and dicing and developed reports to clean the raw data
- Applied XGBoost and LR models to predict the outcome of ECMO support that achieves 79% on AUC in external validation and helped applying and comparing existing algorithms to the dataset
- Built baseline models to help with predict treatment effects in real-word and synthetic datasets

Unsupervised clustering for Heterogeneous Endophenotypes for Chiari patients

Saint Louis, MO

Unsupervised Clustering, Dimension Reduction, Representative Learning

May 2022-Present

- Performed dimension reduction with VAE, LDA, and PCA to solve curse of dimensionality
 - Improved the Silhouette score from 0.12 to 0.47 with feature selection from ANOVA test
 - Demonstrate the stability and reproducibility of the results with Adjusted Rand Score over 0.7
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Work and Project Experience

Technical Intern, ORKA Health Technology Co., Ltd

Shanghai, China

Skills: Flutter, Swift, SQL, Firebase, User-data Analytics

May 2021-Jul 2021

- Implemented the main functionality of APP with Flutter that allows registration, switching mode, adjusting volumes and built customized widgets to standardize typography and style
 - Performed AB test and event tracking and contributed to the design of APP based on data analytics
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Publication

Validation of extracorporeal membrane oxygenation mortality prediction & severity of illness scores in an international COVID-19 cohort

Apr 2023

N. Shah, B. Xue, Z. Xu, H. Yang, E. Marwali, H. Dalton, P.P.R. Payne, C. Lu, A.S. Said; ISARIC Clinical Characterisation Group, Artificial Organs.

Assisting Clinical Decisions for Scarcely Available Treatment via Disentangled Latent Representation (Under review)

Bing Xue, Ahmed Said, Ziqi Zu, Hanyang Liu, Neel Shah, Albert Yang, Philip Payne, Chenyang Lu

Technical Skills

- Computer Skills: Microsoft Office, Photoshop, Premier, Mathematic, Postman
- Coding Skills: C++, Java, Python, Javascript, SQL, HTML, CSS, React, R, Swift, Flutter