Xunyi Jiang

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EDUCATION

Southern University of Science and Technology(SUSTech) **Shenzhen, China**
Department of Statistics
Bachelor of Science in Data Science and Big Data Technology ***09/2020- 07/2024***

- Overall GPA: 3.89/4.0 **Rank: 1/25**
- TOEFL: Reading 28/ Listening 27/ Speaking 24/ Writing 24/ Total 103
- GRE: Verbal 154/ Quant 170/ Wrinting: 3.5
- Relevant Courses: Artificial Intelligence(A), Data Structure and Algorithm Analysis(A+), Bayesian Statistics(A+), Multivariate Statistical Analysis(A), Advanced Stocastic Process(A), Statistical Learning(A), Computational Statistics(A+), Operation Research and Optimization(A+), , Mathematical Statistics(A+), Advanced Linear Algebra(A-), Mathematical Analysis(A-)

National University of Singapore Summer Program **Singapore**
Course: Web Mining ***07/2023-08/2023***

- Overall Grade: A

Senimar: Introduction to and Advances in Self-Supervised Learning ***06/2023-08/2023***

RESEARCH INTERESTS

- Deep Learning, Machine Learning, Large Language Model, Anomaly Detection
- Semi-supervised Learning, Self-supervised Learning

RESEARCH EXPERIENCES

Chao Wang's Research Group, SUSTech **Shenzhen, China**

Prof. Chao Wang's research group specializes in scientific computing, image processing, interdisciplinary mathematical modeling, compressive sensing, convex and non-convex optimization, medical imaging, and numerical linear algebra.

Undergraduate Research Assistant, Advisor: Prof. Chao Wang ***04/2023- present***

- **Project: Normalizing Flow in Semi-supervised Learning**
  - Introduced 3 methods(W-MSE/Barlow Twins/VICReg) lying in information maximization, and 2 methods(SeLa/SwAV) in clustering on the seminar.
  - Adopted Normalizing Flow technique into FixMatch to boost the accuracy for the semi-supervised learning.
  - Applyed the clustering concept from self-supervised learning to semi-supervised learning to improve the generalization of previous semi-supervised learning methods and learn prototypes for the unseen class.
  - Worked based on Python, Pytorch, LaTex.

Yifang Ma's Research Group, SUSTech **Shenzhen, China**

Prof. Yifang Ma's research group primarily focuses on the fields of network science, data science, and computational social science.

Undergraduate Research Assistant, Advisor: Prof. Yifang Ma ***07/2022- 03/2023***

- **Project: Hierarchy Structure in Institutions and Mobility of Researchers in China**
  - Worked on the database of OpenAlex and ORCID to dig out the relationship between University rank with movements of researchers, and extracted the education and hiring network from paper publication.
  - Ranked the university of China based on the extracted information from database and used MVR model to implement the rank algorithm. Used MCMC and burn-in technique to assure the stableness of convergency.
  - Visualized the mobility and constructed null model to compare the hierarchy between the reseach institutions.

North Carolina State University **U.S.**

Undergraduate Research Assistant, Advisor: Prof. Baisden, Paula A ***07/2022- 09/2022***

- **Project: Meta-analysis of Psychometric of Interdisciplinary Education**
  - Did literature review on the former psychometric of interdisplinary education based on the dataset MedLine, CINHAL, and ProQuest.

PROJECTS

National University of Singapore **Singapore**

Developer, Advisor: Prof. Lek Hsiang Hui ***07/2023- 08/2023***

- **Project: Travel Copilot**

This project won the third prize of course Web Mining in the National University of Singapore School of Computing Summer Workshop.

  - Implemented a travel assistant website of Singapore, which contained route planner, chat bot agent, categorized information, summarized information, and travel suggestions.
  - Fine-tuned a BERT Chinese base model to do sentiment analysis, the result on the specific dataset exceeded the performance on Hugging Face.
  - Used Langchain to implement a chatbot on the domain knowledge, which was scratched from Xiaohongshu, a popular Chinese media platform, and built the backen of this website.
  - Worked based on Python, Pytorch, Javascript.

SUSTech **Shenzhen, China**

Developer, Advisor: Prof. Chao Wang ***05/2023- 06/2023***

- **Project: Computed Tomograhy and Inverse Problems**
  - Conducted experiments which demonstrated the effectiveness of Tikhonov and total variation regularization in the CT reconstruction and denoisy.
  - Explored RED-CNN for image restoration tasks and attempts to replicate PIFu for 3D shape reconstruction from 2D images. This research expands knowledge in CT reconstruction and deep learning.

Developer, Advisor: Prof. Jianguo Zhang ***11/2022- 12/2022***

- **Project: Classification of Manmade and Natural Images**
  - Used GIST and Hough transformation to extract features and KNN with self-defined distance to classify pictures, and got 90% accuracy finally.
  - Compared color similarity and built a new mosaic picture based on given picture dataset. The output of image was similar to original target picture.

SKILLS

- **Programming Languages:** Proficient in Python, Java, R, Matlab, Latex, Git
- **Software Tools:** Proficient in PostgreSQL, Spark, SAS

HONORS&AWARDS

- National Scholarship (<0.3%) ***10/2023***
- Third prize National University of Singapore School of Computing Summer Workshop ***Summer 2023***
- Elite program of Statistcs of Southern University of Science and Technology ***Spring 2023***
- Chief Cellist of Student Symphony Orchestra ***2022-2023***
- Student Academic Assistant ***2022-2023***
- First Class Scholarship of SUSTech (<5%) ***2020- 2021, 2021- 2022***
- Outstanding Freshman Special Scholarship(<5%) ***09/2020***