Chen Guanze

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Education Background

<u>The Chinese University of Hong Kong</u>, Hong Kong, China   2023/09 − 2024/07
Master of Computer Science

<u>Sichuan Universiy</u>, Chengdu, China   2019/09 − 2023/06
Bachelor of Information Resources Management
GPA:3.85/4.0 | Rank:3/76

Research Experience

Efficient fine-tuning of large models based on transformer architecture   2023/08 − Current
Supervised by **<u>Hong Xu</u>**   <u>CSE, CUHK</u>

- **Algorithm Research**: Exploring the current mainstream methods for efficient parameterization, including selection methods, hybrid expert systems, structured pruning and other compression methods, and selecting the appropriate method for in-depth study.

- **Model compression**: Combining the existing studies of wanda and FisherMask, modify the evaluation index of large model weights, reduce the number of operations and computational complexity of model parameters, and test the efficiency of updating model weights.

- **Efficiency testing**: Designing ablation experiments to evaluate the accuracy and efficiency of model compression.

Machine Learning-based health service data analysis and platform development   2022/06 − 2022/09
Supervised by **<u>Jiguo Cao</u>**   <u>Simon Fraser University, Vancouver, Canada</u>

- **Data Processing**: Processed health data from different sources using Python, including extraction of target fields, data format conversion, missing value handling, and partitioning of training and validation sets.

- **Algorithm Deployment**: Trained the XGBoost algorithm to implement the prediction of health service quality ratings, and combined it with Streamlit to implement the design of the page and the deployment of the algorithm.

Aasen's algorithm for solving symmetric matrix functions   2022/04 − 2022/11
Supervised by **<u>Gang Chen</u>**   <u>TianYuan Mathematical Center</u>

- Optimized the LAPACK function by setting up threads, dichotomizing, adjusting the matrix chunk size, and setting up OpenMP task.

- Parallelized the factorization and back substitution parts of matrices, programmatically split the key steps of the Aasen algorithm and achieved a 40x improvement in computer performance on large-scale matrices.

Research of Early Childhood Physical Fitness Evaluation system based on Big Data analysis   2021/12 − 2022/04
Co-supervised by **<u>Jianxin Zhang</u>**   West China Biomedical Big Data Center

- **Data collection**: Developed data entry system for early childhood physical fitness to facilitate the entry of physical fitness test information and data extraction.

- **Construct classification algorithms**: Assisted in analyzing data, improving the evaluation model classification accuracy based on multiple regression analysis

Publication

- Zhu Yu, **Chen Guanze**, Lu Yongrong, et al. Generative Artificial Intelligence Governance Action Framework:Content Analysis Based on AIGC Incident Report Texts[J]. Documentation, Information & Knowledge, 2023,40（4）：41-51.

Professional Experince

Data Analysis   <u>**Simens Electronic Works, Chengdu, China**</u>   2022/12 − 2023/04

<u>PCB sampling rate optimization based on statistical analysis</u>

- **Data preprocessing and persistent storage**: Designed relational data tables and wrote SQL to extract real-time production data, and utilized Python for data cleansing and storing into corresponding data tables.

- **Algorithm construction**: Combined with the lower limit of the defective rate of the actual production business products, using Bayesian network, parameter estimation, significance test methods, estimation of sampling parameters, and based on Python to complete the implementation of the algorithm, so as to improve the efficiency of its product testing by 80%.

- **System development**: Built algorithmic testing and analysis systems using Django and Vue.js for visualizing analysis results and dynamically adjusting sampling ratio parameters

Awards

The Entrance Scholarship, The Chinese University of Hong Kong	2023
Mitacs Global Research Intership Awarad, Canada and CSC (China)	2022
Second-class Comprehensive Scholarship, Sichuan Univeristy	2021
First-class Comprehensive Scholarship, Sichuan Univeristy	2020
Outstanding Student of Sichuan University	2020

Skills

Programming: Python(Pytorch, scikit-learn), R, SQL
Web Development: Vue.js, Node.js, Django, Flask