Taixi CHEN

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Education

Hong Kong Baptist University Sep 2021 – Jun 2025 (Expected)
Bachelor of Science in Computer Science (cGPA: 3.34 / 4.00) *Hong Kong*

- **The major concentration GPA(CST):** 4.0/4.0
- **The second semester GPA of year 3(Last semester):** 4.0/4.0
- **Remarks1:** All computer science technology concentration courses are A(4.0/4.0), including:
  - COMP3005 Design and Analysis of Algorithms (Java)
  - COMP4107 Software Design, Development and Testing (Kotlin)
  - COMP4057 Distributed and Cloud Computing (Java)
- **Remarks2:** All data mining, Artificial Intelligence and machine learning courses are A (4.0/4.0), including:
  - COMP3057 Introduction to Artificial Intelligence and Machine Learning (Python)
  - COMP3115 Exploratory Data Analysis and Visualization (Python)
  - COMP4027 Data Mining and Knowledge Discovery (Python)

Research Experience

Investigation on similarity distance metric in heterogeneous data cluster analysis June 2024 – August 2024
Research assistant | First author *Hong Kong Baptist University*

- Research with Prof. Cheung Yiu-Ming on heterogeneous data clustering analysis. The heterogeneous data contains different data types and our motivation is to find a better distance metric for further analysis, especially for the categorical data clustering analysis
- Propose a natural and novel distance metric for categorical data based on entropy, which separately processes the distance of the ordinal data and nominal data
- Conducting various experiments to prove the correctness and feasibility of proposed method

Adaptive noise-tolerant rPPG algorithm for heart rate estimation June 2024 - May 2025
Final year research paper *Hong Kong Baptist University*

- Focus on rPPG algorithm refinement under the supervision of Prof. Cheung Yiu-Ming. Towards fast and efficient rPPG algorithm within the noisy environment
- Propose a novel and efficient deep learning model to handle the denoise and analyze process. Specially, designed a classification-based aggregation module with a duel denoise channel.

Parameter adaptive Multi-classifier analyzing complex dataset with noise Aug 2024
Personal research report *Hong Kong Baptist University*

- During the Data Mining and Knowledge Discovery class, proposed a Multi-classifier to analyze the dataset with noise, which contains two parts including unsupervised pre-classification and supervised further processing module
- The main contribution is enhancing the DBSCAN in the unsupervised pre-classification process, which does not need to choose parameters previously and also partially addresses the different density cluster issues.

Hong Kong Baptist University July 2023 – August 2023
Research assistant *Hong Kong*

- Research with Prof. Cheung Yiu-Ming on clustering algorithm problems and hopes to make a refinement. Implemented experiments and read myriads of papers on various clustering methods aiming to find a path to improve their drawbacks. Especially the clustering data in high dimension and streaming.

HeBei University Jan 2022 - Aug 2022
Research assistant *He bei*

- Researched at He Bei University with Prof. Li Kai and helped his team find some practical and valuable literature about deep learning and image denoising. Gained numerous Deep Learning knowledge and cultivated the code ability about deep neural networks.

Publications/Report

[1] Taixi CHEN. “Parameter adaptive Multi-classifier analyzing complex dataset with noise”. Report. 2024.

[2] Taixi CHEN; Yiu-ming Cheung. “Adaptive noise-tolerant rPPG algorithm for heart rate estimation”. Final year research paper. 2024.

[3] Taixi CHEN; Yiu-ming Cheung. “Investigation on similarity distance metric in heterogeneous data cluster analysis”. Manuscript. 2024.

[4] JIANG Yanbo;XU Ningwei;CHEN Taixi;QIN Anchen;HUANG Dazhuang. “Intelligent classification of land use based on BP neural network and stormwater simulation”. In: *Journal of Hebei University(Natural Science Edition)* 44 (Sept. 2024), pp. 208–215.

[5] LI Kai;ZHANG Hui;CUI Lijuan;PENG Jinjia;CHEN Taixi. “Image denoising based on deep residual network with dual-domain information”. In: *Journal of Hebei University(Natural Science Edition)* 43 (2023), pp. 216–224.

Projects

A mobile App for non-profit organization volunteer system | *Kotlin*

- Designed and deployed an Android app for non-profit organization volunteer system. It can provide a platform for volunteers to see the event page and choose to join it or not. Specifically, every users need to register their account before join any events to become a volunteer.
- Implemented a neat and powerful UI for volunteers to use based on the Kotlin.

Non-profit organization volunteer system website | *JavaScipt*, *EJS*, *HTML*, *CSS*

- Implemented a complete volunteer system including the management side and user side. For the management side, the admins can add, delete, update their new events, which can only be operated for admins
- Constructed the user side for register any events and accounts management as well. The back-end and front-end is established by myself and the rendering as well

War of The Three Kingdoms (WTK) - Standard | *Kotlin*

- Developed a game which is similar to the War of The Three Kingdoms (WTK) - Standard.
- Built the basic logic of game over and begin and also design a distance calculation method for different users/players to have a good simulation as the real game. Developing the cards with functions and player’s strategy as well.

Technical Skills

Languages: English (Fluent, TOEFL: 94),Chinese Mandarin (Native), Cantonese (Limited Working Proficiency)
Code Languages: Java, Kotiln, Python, HTML, JavaScript
Technologies: PyTorch, Node.js, Vue.js, Django, Express.js, Bootstrap, Android development

Achievements

- Concentration Award in CST
- President honor roll (attached with grade record)
- Dean list (attached with grade record)

Social Engagements

Volunteer leader: Serving for helping freshman to assimilate into university life and organize many activities for them
Volunteer: Participating in Welfare activity for Chinese New Year in Hong Kong. With a member of the Legislative Council of Hong Kong, Prof. Liu Zhipeng (BBS, JP), participating as a volunteer in a welfare activity. Created Spring couplets for the neighborhoods in a district of Hong Kong.