SHUCHEN YUAN

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EDUCATION

Xi'an Jiaotong-Liverpool University, China *September 2020 - Presence*
B.Sc. Information and Computer Science
GPA: 3.82/4.00
Award: University Academic Achievement Award(Top 10%)
Core curriculum:
Human centeric computing, Computer Graphics, Software Engineering, Java Programming, Introduction to Database, Computer System, Introduction to Artificial Intelligence, Discrete Mathematics and Statics...

University of Liverpool, United Kingdom *September 2020 - Presence*
B.Sc. Information and Computer Science

Osaka University, Japan *July 2022*
Internatonal Summer Program 2022
Introduction to Multivariable Calculus

Fluent in English(IELTS: band 7) and Mandarin(Native Speaker)

TECHNICAL SKILLS

Programming:	**C#,C++, Java, MySql, Python**
Software & Tools:	**VR/AR: Unity**
	UI & UX Design: Figma
	Academic Writing: LaTex
	Data Visualization & Analysis: Python(Pandas, Numpy, sklearn...), Spsspro
	Database: Navicat, MyAdmin
	Operating System: Linux, windows
	Code Vesioning Platform: Github, Gitlab

RESEARCH EXPERIENCE

X-CHI Laboratory of XJTLU *October 2022 -Now*
Volunteer/Research Assistant
- Project is on progress.

Summer Undergraduate Research Fellowship of XJTLU - Machine Learning based route reconstruction heuristics for supporting diversification in meta/hyper-heuristics *June 2022 - September 2022*
Research Assistant/Group Member
- Re-Modeled the VRP (Vehicle routing problem) and C-VRP algorithm models in Java.
- Constructed a criteria functions with destroy and repair operators to progressively reconstruct the solution space based on greedy insertion.
- Poster of stage result of this project is available at https://github.com/humb1e1989/Machine-Learning-based-Route-Reconstruction-Heuristics.

PROJECTS (AVAILABLE IN GITHUB)

3D McDonald Drive-thru restaurant
https://github.com/humb1e1989/McDonalds-Drive-Thru
- Modeled and designed a McDonald Drive-thru restaurant scene withe light material and texture material use, and many dynamic animation of the objects in the scene.

- Programmed an interactive functionality of the user: human-like perspective adjustment.(Like the FPS game)
- Wrote about 3000 lines of C++ code for this project.

2D Disney New Year Greeting Card
https://github.com/humb1e1989/Disney-New-Years-greeting-card
- Designed a pseudo-3D framework of single point perspective on 2D plane with animation.
- Programmed interactive functionalities of the user: after receiving a series of specific user inputs, the greeting card will realize the visual effect of gradual approach/distance on 2D plane.
- Wrote about 1000 lines of C++ code for this project.

Application of Machine Learning in the Classification of Students According to their grade
https://github.com/humb1e1989/Application-of-Machine-Learning-in-the-Classification-of-Students-According-to-their-grade
- Operated Data pre-processing on a data sets with tendency to be randomly distributed. Handled outlier and the data bias through Over-fitting, Under-fitting and correlation analysis between data.
- Operated feature distraction using dimension reduction and visualization, assembled t-SNE, 2D and 3D PCA algorithm model to distract most suitable two-dimensional features for this data-set with random-distribution-tendency.
- Assembled KNN, SVM and Naive Bayes algorithm models to train the classifier and applied the Grid Search to implement the hyper-parameter optimization for those models. Accuracy is around 60% in this case.
- Re-Modeled K-means for unsupervised learning. The result shows a clear boundaries between clusters.

Pandemic Database
https://github.com/humb1e1989/Pandemic-database
- Designed and implemented pandemic database with personal information, GPS and the virus test result.
- Implemented functions of risk level adjustment of regions, trajectory tracing of positive case for the database.

ON-CAMPUS EXPERIENCE

Student Lecturer of School of Advanced Technology ***April 2022 - January 2023***
Student Lecturer of Module: Software Engineering
- Coached the student in enrolled module Software Engineering for Assignment Q&A, exam review about 1.5 hours weekly.
- Enhanced the Communication between teachers and students, collected the feedback of the course to improved teaching experience.

One-to-one tutor
- Coached the repeated student in their failed modules for more than 20 hours, including explaining the course materials and Assignment Q&A. (My paired partner successfully pass the repeated year!)

EXTRA CURRICULAR

Social Practice: Volunteering teaching in mountain area
Group Member
- Coached the kids in mountain area for more than 30 hours.
- Enhanced the communication between the communities of XJTLU and Sichuan Shuoshan middle school.
- Promoted to addressing inequality in mountain education and focusing on accessibility and inclusion of the mountain-areas students in education.

Social Practice: Game Localization and its Marketing Research
Leader/Group Member
- Built an investigation team of 5 people from 3 different majors, focusing on surveying and analysing the consumer feedback of games with different levels of localization to interpret the influence factor of game localization on consumer behaviors.