

Qiaoyun(Jessica) XUE

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Education

University of Glasgow(QS Ranking 81), Glasgow, UK

Jan 2021 - Apr 2022

- Master of Science in **Data Analysis**
- **GPA (Overall): 3.7/4.0**
- Core Coursework: Bayesian Statistics (A), Statistical Inference (A), Probability (A), Big Data Analytics (A)

Yunnan University of Finance and Economics, Kunming, China

Sep 2014 - Sep 2018

- Bachelor of Science in **Mathematics and Applied Mathematics**
- GPA (overall): 82/100, **Ranking: Top 5%**
- Core courses: Mathematical Statistics (86/100), Numerical Analysis (89/100), Applied Regression Analysis (81/100)
- **Passed ACCA** (Association of Chartered Certified Accountants) 6/13 Covering Business and Technology, Management Accounting, Financial Accounting, Corporate and Business Law, Financial Management, Performance Management

Publications & Patents

Publications

- **Qiaoyun Xue. Research on a Heart Disease Prediction Method based on Neural Network (accepted by AICBD 2023)**
- **Qiaoyun Xue, Davie Ruan, Guoxuan Zhang. Comparison of different machine learning algorithms for predicting air-conditioning operation modes** (in preparation for IoT-Related Journals)

Patents

- CN202310936682.6 **An air conditioning control system and its control method** (Pending) **Qiaoyun Xue, Davie Ruan, Zhaoting Ren et al.** A machine learning based controller method to realize automatic entering and exiting functional scenarios, providing users with a more intelligent and comfortable home experience.
- CN202211679156.8 **A positioning system and positioning method for an air conditioning device** (Passed the preliminary examination) Guoxuan Zhang, **Qiaoyun Xue.** A method to obtain the relative position information of the indoor unit, outdoor unit, and central controller of an on-site air conditioning system by using Bluetooth module RSSI ranging, triangulation positioning, and DBSCAN clustering algorithm.
- CN202310962564.2 **A Control Method for a Central Controller and Air Conditioning System** (Pending) Davie Ruan, **Qiaoyun Xue, et al.** The present invention offers a control method for a central controller and a smart air conditioning system, addressing the issue of manual settings and enhancing users' intelligent and convenient experiences.
- CN202310623117.4 **An air conditioning smart control system and its control method** (Under examination) Guoxuan Zhang, Zhaopeng Sun, **Qiaoyun Xue.** Achieved the human-sensing function by UWB pulse between base station, indoor unit and the terminal.
- CN202310960242.4 **A Control Method for Cloud Server and Air Conditioning System** (Pending) Davie Ruan, Tiejun Sun, Zhaoting Ren, Qingming Liu, Dongyao Li, **Qiaoyun Xue.** This invention discloses a control method for cloud servers and air conditioning systems addressing the issue of low accuracy in predicting user settings using the RNN model.
- CN202311147412.3 **An air conditioning device** (Pending) Davie Ruan, Tiejun Sun, Zhaoting Ren, Dongyao Li, **Qiaoyun Xue, Qingming Liu.** The invention relates to the field of machine learning technology and intelligent air conditioning control technology, in particular to a method for predicting the indoor ambient temperature by using Transformer model.
- CN202311064201.3 **The invention relates to an air conditioning control system and a control method** (Pending) Davie Ruan, Ruizhen Xu, **Qiaoyun Xue, et al.** The algorithm is based on the Internet of Things technology and cloud platform big data technology to collect user usage habits data and indoor and outdoor environmental parameters, using machine learning models to achieve user-set temperature, wind speed, mode prediction and automatic adjustment of air conditioning.

Research Experiences

Heart Disease Prediction Method based on Neural Network

University of Southern California

Research Assistant, Advisor: Professor Victor Adamchik

Aug 2022-Nov 2022

- Aimed to validate deep learning's potential in medical diagnostics and pave the way for practical applications.

- Designed a multilayer neural network to make heart disease diagnoses. Preprocessed the dataset for features extraction.
- **Achieved 75% accuracy and** demonstrated the successful utilization of neural networks, advancing medical diagnostic capabilities with respect to various heart diseases.

User Behavior Learning Algorithm for Residential Multi-Split Central AC

China University of Petroleum

Research Assistant, Advisor: Professor **Leiquan Wang**

Oct 2022-Aug 2023

- Automated AC adjustments, enhancing comfortability by modeling users' preferences.
- Researched user behavior in the field of smart central air conditioning by leveraging big data and machine learning techniques
- Constructed user habit parameters using indoor and outdoor data, accurately predicting temperature, fan speed, mode preferences and AC switch time.
- Forecasted scenario entry and exit timing successfully with an error of less than fifteen minutes, achieving a prediction accuracy of over 93% for temperature and over 98% for fan speed and mode settings.

Work Experiences

Hisense Home Appliances Group Co., Ltd., *Smart-technology Department*

Qingdao, China

Big Data Engineer

Aug 2021- Present

- Offered data-driven support for product development and operations via analyzing and extracting insights from extensive user behavioral data with machine learning techniques.
- Employed Python to conduct data mining and modeling, leveraging data systems such as SQL, Elastic search, and cloud platforms to execute data query and processing tasks.
- Leveraged Python, R, and Excel to create sophisticated data visualizations, ensuring the clear comprehension of intricate insights by non-technical stakeholders and facilitating informed, data-backed decision-making.

Qingdao Inter-Credit Services Pte Co., Ltd., *Internal Control Center*

Qingdao, China

Data Analysis Specialist

Mar 2019- Oct 2020

- Conducted data analysis with processing tools, such as numpy, pandas, and matplotlib in Python alongside SQL databases.
- Assisted in handling other emergent legal, financial, human, IT and other management risks, and gained a deeper understanding of the overall operation of the company.
- Trained robust data analysis and processing skills, risk assessment and control capability, modeling abilities, and enhanced teamwork and problem-solving skills.

Shandong Desheng Certified Public Accountants Firm Co., Ltd., *auditing department*

Qingdao, China

Audit Assistant

May 2018-March 2019

- Led the collection of audit materials, carrying out spot checks on vouchers and compiling audit reports
- Participated in external audits, including Sunac China Holdings Limited, Adidas's big contract factory, and Qingdao West Coast Cultural Tourism Group Co., Ltd.
- Honed my meticulousness, ability to work in a high-pressure environment, sensitivity to data, and auditing skills

Awards& Competitions& Activities

- Second Prize, Southwest Division of the National Market Research Competition in Statistics.
- Passed six courses in the Association of Chartered Certified Accountants
- Elected as the only class representative serving 85 students during postgraduate studies
- Elected president of the Hongyu Badminton Club during my undergraduate studies

Skills & Languages

- **Programming languages: Python/SQL/R /KQL/Java/ES/Matlab/Unix/VBA/LATEX**
- Languages: Mandarin (Native); English (Fluent)
- Other skills: Driving/Microsoft Office/Photoshop/VUE/X-mind/Visio
- Hobbies: Swimming/Badminton/Singing (Has participated in provincial Badminton competitions).
- Standard English Test Scores: PTE Overall 64 (Speaking 72, Writing 65, Reading 62, Listening 61) / IELTS Overall 6 (Speaking 6, Writing 6, Reading 6, Listening 6)