

# Wenhan Chen

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## Education

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Sep 2021 – Sep 2022

University of Leeds, M.Sc., Leeds, United Kingdom

Major: Advanced Computer Science | **GPA:68/100 Top 10%**

Thesis: Advanced GIS functionality for Animal Habitat Analysis

Courses: Artificial Intelligence (76/100), Programming for Data Science (79/100), Machine Learning (67/100), Big Data System (80/100)

Jun 2016 - Jun 2020

Beijing Jiaotong University, B.Eng., Beijing, China

Major: Computer Science and Technology | **GPA: 76.2/100**

Thesis: Design and implementation of data aggregation system based on blockchain

Courses: Artificial Intelligence (90/100), Operating System (85/100), Computer Networks (80/100), Data Structures (72/100)

## Research Experience

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### ➤ Postgraduate Studies:

Mar 2022 – Sep 2022

**Advanced GIS functionality for Animal Habitat Analysis**

Addressed the potential of geographic information systems for animal habitat analysis.

Constructed models targeting ecological niches by using environmental data in combination with animal habitat data.

Utilized the niche models in combination with animal characteristic data to predict and visualize the potential habitats of species.

Highlighted the application of computer modeling in geography and zoology for wild-life animal protection through the accuracy of model testing results and system scalability.

Apr 2022 – May 2022

**Predict Cancer Mortality Rates in US Counties**

Availed use of a variety sets of data, including a wide range of information gathered of every American province on cancer mortality.

Designed and fitted regression models to the data to predict the cancer mortality rate for a specific province and evaluated the effectiveness of various models.

Developed an ML pipeline to pre-process the data, employed Ordinary Least Squares, Lasso, and Ridge models, and selected suitable regularization weights to compare the root mean square error of the predicted results.

Mar 2022 – May 2022

**Lyrics sentiment analysis and personalized song recommendation**

Employed Natural Language Processing and Deep Learning to analyze the sentiments in song lyrics, classify songs into different emotional categories, and generate targeted suggestions based on tags to increase communication accuracy.

Adopted CRISP-DM for sentimental analysis to realise recognition and analysis of syntax and semantics to further analyze and classify song moods.

Designed scoring system for lyrics in emotional expressions, polarity, and subjectivity for lyric moods differentiations.

Feb 2022 – Mar 2022

**Image Caption Generation**

Utilized the Encoder Decoder network to achieve end-to-end coupling and training.

Adopted CNN model to encode the image into a feature vector to extract the image features and adopted RNN model to decode image feature vectors and generate captions.

Trained model and evaluated results with BLEU and Cosine Similarity.

Developed an efficient encoder-decoder model and accomplishes the production of particular text depending on visual content.

## ➤ Undergraduate Studies:

**Dec 2019 – Jun 2020**

### **Design and implementation of data aggregation system based on blockchain**

Conducted in-depth research based on blockchain technology and used blockchain technology to design and develop a data aggregation system.

Incorporated decentralization and non-tampering to analyze data security implications in data aggregation system and further suggest optimization based on security protection technology.

Proposed methodology for improving efficiency while reducing costs to enhance practical value of the suggested system.

**Sep 2018 – May 2019**

### **"Internet+" intelligent management system for laboratory equipment**

Employed MySQL for database design to store user information.

Utilized the Bootstrap framework and Ajax technology to design the webpage framework for operating the back-end system.

Proposed laboratory management system and fully realized its provision for daily operations and maintenance.

## **Working Experience**

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**Mar 2021 - Aug 2021**

### **Backend Engineer, Alibaba Cloud Technology Co., Ltd, Beijing**

Responsible for the development of industrial finance digital platform and food quarantine management platform, and APIs used by front-end developers.

Defined and maintained the central database, ensuring high performance and responsiveness to requests from the front-end.

Involved in optimizing servers for speed and stability, implementing security structures, generating reusable code libraries and generating data storage solutions.

**Jul 2019 - Sep 2019**

### **System Engineer, Beijing Mipay Technology Co., Ltd., Beijing, China**

Engaged in the development of the risk control system of the digital economy financial platform.

Installed, configured, tested and maintained operating systems, application software and system management tools

Ensured the highest levels of systems and infrastructure availability.

## **Skills & Awards**

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**Language:** English (Fluent; IELTS 6.5/9.0; TOEFL 87), Mandarin (Native)

**Computer:** C++, Java, Python, SQL, Tensorflow, Pytorch

**Others:**

- Participant of the Beijing College Students' Innovation and Entrepreneurship Competition (2019)
- Recipient of the 3<sup>rd</sup> Tier Academic Scholarship of Beijing Jiaotong University (2019)
- Computer Science Lab Administrator at Beijing Jiaotong University (2019)
- Public Relations Officer of the Computer Science Association of Beijing Jiaotong University (2016-2018)