Wenjia He

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Educational Experience

Shandong University (SDU) 2018.09-present

Bachelor of Engineering in Artificial Intelligence GPA 90.90/100

- Main Courses: *Advanced Mathematics, Linear Algebra, Discrete Mathematics (Bilingual), Probability and Statistics, Course Design of Advanced Programming Language (Bilingual), Data Structure (Bilingual), Organization and Structure of Computer, Operating System (Bilingual), Optimization Methods, Algorithm Design and Analysis, Introduction to Artificial Intelligence, Machine Learning, Computer Vision, Information retrieval*
- Awards and Honors: Second Prize of Research and Innovation Scholarship (2020.10)
- Awards and Honors: Second Prize of Academic Scholarship (2020.10)
- Awards and Honors: Second Prize of Academic Scholarship (2019.09)

Medical Informatics/Health Big Data (Micro Major) 2020.07-present

- Main Courses: *Introduction to Medical Informatics, Health Big Data Policies and Standards*

Research Experience

***Member*, Prediction and Analysis of Anticancer Peptides Based on Deep Transfer Learning, SDU Research Center of Software and Data Engineering, Tutor: Professor Wei Leyi** 2020.08-present

- Referred to papers on identification of anticancer peptides, and reproduced typical models such as models based on SVM, decision tree, and LSTM
- Applied deep transfer learning to the building of neural network models, analyzed results and improved models, and wrote an academic thesis

***Member*, Identification of Origins of DNA Replication Based on Machine Learning, SDU Research Center of Software and Data Engineering, Tutor: Professor Wei Leyi** 2020.06-2020.08

- Read the literature, learned about XGBOOST and Stacking strategy to build a new discriminative model, and wrote an academic paper

***Member*, How to do Environmental Protection via Computational Science, Machine learning and AI, Carnegie Mellon University, Tutor: Associate Professor, Gerald J. Wang** 2019.05-2019.07

- Pored over relevant papers, and mastered research skills and methods
- Acquired knowledge of calculus, matrix algebra and machine learning, and grasped the usage of MATLAB and Revit
- Wrote the thesis *Decomposition Analysis of Factors Influencing Urban Greenhouse Gas Emissions Based on Machine Learning*

Publication

Manuscript in preparation: Computational Prediction and Interpretation of Cell-specific Replication Origin Sites from Multiple Eukaryotes by Exploiting Stacking Framework (prospective journal: *Briefings in Bioinformatics,* DOI:10.1093/bib/bbaa275)

Projects Experience

Individual Project*, Development of a News Mini-program, Course Project 1 for *Mobile Internet Development Technology 2020.03-2020.06

Implemented such functions as releasing news, viewing news, posting comments, and collecting news

Member*, Development of a Mini-program for Chatting, Course Project 2 for *Mobile Internet Development Technology 2020.03-2020.06

Implemented such functions as chatting, uploading and downloading images and audios, sharing position information, and adding friends

- Constructed a cloud server and developed the website, and used Bt-Panel to configure cloud server environment

and SSL certificate

- Used MockingBot for interface design, built a MySQL database according to business requirements, and employed Eolinker to design a background interface
- Used Mybatis and SpringBoot for back-end development while Vue and ElementUI for front-end development
- Carried out front-end and back-end testing, debugged according to logs and iterated the program
- Wrote an experimental report and made a presentation

Individual Project*, A System of Querying Document Collections, Course Project for *Course Design of Data Structure 2020.02-2020.03

- Used Python to parse all files in folders on a given path according to file format
- Loaded jieba, NLTK and other modules into the system, and conducted word segmentation, lemmatization, etc.
- Employed Harshing to build document-based indexes, and made compound queries on AND or OR through complex logic processing
- Utilized BM25 algorithm to calculate the word frequency vector as representation of the documents and keywords. Search keywords and made fuzzy queries through ranking by cosine similarity
- Wrote an experimental report and made a presentation

Individual Project*, Python Practice in Image Classification, Course Project for *Python Programming Design for Artificial Intelligence 2019.11-2019.12

- Built a convolutional neural network with Tensorflow, searched for common data sets such as CIFAR-10 and OxFlowers17 and preprocessed data
- Performed experiments on different data sets in different models and compared the performance of different models.
- Adjusted hyper parameters and used such technologies as dropout and k-fold cross validation to enhance the model’s perfoemance
- Wrote an experimental report and made a presentation

Individual Project*, A System for Class Affairs Management Based on Campus Network, Course Project for *Course Design of Advanced Programming Language 2019.03-2019.05

- Build connection of MySQL and JAVA program through JDBC
- According to a C/S architecture, built functional modules to satisfy needs for internal management
- Made a Socket to realize server-client information interaction and chatting among members
- Realized multithreading by allocating functional modules to independent threads
- Created a Serializable interface and utilized ObjectInputStream to transmit complex data and solve data structure conflicts
- Wrote an experimental report and made a presentation

***Individual Project*, Development of Association Management System, Microsoft Student Club Practice** 2019.01-2019.02

- Employed Wechat applet developer tools including WXML and WXSS to design interface
- Used JavaScript to implement such common functions as internal management and internal and external information release
- Established a back-end database and services by virtue of CloudDB and Serverless Cloud Function provided by the Wechat applet

Competitions

Recognition Award in the Sixth SDU “Internet+” College Students’ Innovation and Entrepreneurship Competition 2020.10

Bronze Prize in 2020 SDU “Challenge Cup” Entrepreneurship Competition 2020.10

Honorable Mention Prize in the Mathematical Contest Modeling 2020.04

First Prize in the Contemporary Undergraduate Mathematical Contest in Modeling of Shandong Province 2019.10

Extracurricular Activities

***Member/ Deputy Director/ President*, Microsoft Club** 2018.09-present

- Organized meetings, training and competitions, and provided technical training and guidance
- Managed club affairs and won the annual award of “Excellent Club Leader-Technology”

***Member,* Sharing Ideas Association** 2019.05-present

- Mastered machine learning and deep learning, grasped statistical methods and learned about common models such as SVM, HMM and EM algorithm
- Used Pytorch to construct a deep learning environment and realize common neural network models

Other Information

English Proficiency: IELTS (6.5)

Computer Skills: Programming (Java, C++, Python, MATLAB, HTML, JavaScript), Software Application (IntelliJ IDEA, MySQL, TeXstudio, Visual Studio Code, Typora, Postman, Xshell)

Online Summer Courses: *Big Data Recommendation Systems, Machine Learning*