JIAXUAN CAI

choigaahin@gmail.com / +86 13388958463
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ACADEMIC BACKGROUND

Chongqing University (CQU), Chongqing, China   09/2018-06/2022

Discipline: Computer Science and Technology (Distinguished Engineer Programme)

Degree: Bachelor of Engineering (Expected in June 2022)

GPA: 90.27/100, 3.77/4.0   Major GPA: 91.5/100, 3.89/4.0   Ranking: 16/328

ACADEMIC & RESEARCH EXPERIENCE

Research on GPU-based Quick Search Strategy for QC-LDPC Code's Trapping Sets   07/2020-07/2021

Project Leader, Institute of Pattern Recognition and Information Processing, School of Computer Science, CQU

Supervisor: Yong Li, Associate Professor, School of Computer Science, CQU

- Applied CUDA to construct experimental platform
- Used the trapping set searching method based on iteratively extending base matrix to propose an optimization algorithm to search the trapping sets in LDPC code
- Proposed new algorithms that meet the requirements through the analytic hierarchy process constantly and used the experimental platform to test their efficiency and performance
- Intend to find out the optimized searching algorithm for LDPC code's trapping sets and develop a tool set based on this algorithm

"Medical Vision" Intelligent Medical Platform   06/2019-06/2020

Project Leader, Chongqing Key Laboratory of Software Theory and Technology, Chongqing

Supervisor: Cheng Zhang, Professor, Chongqing Key Laboratory of Software Theory and Technology

- Crawled the symptom data and health advice of various diseases from the data sources of Dingxiang Doctor and JD Doctor by using Python crawler and data mining
- Analyzed data by using Excel and SPSS software
- Designed database to develop back-end program based on SpringBoot framework
- Designed interactive logic and used VUE to develop front-end program based on UNI-APP platform
- Put the project into use in University-Town Hospital of Chongqing Medical University

Research into the Application of Online Learning and Teaching Platforms in CQU   02/2019-06/2019

Project Leader, School of Foreign Language and Culture, CQU

Supervisor: Ling Ou, Professor, School of Foreign Language and Culture, CQU

- Made online and offline questionnaires, distributed 400 online questionnaires and 150 offline questionnaires
- Used SPSS Software to analyse data based on objective questions of questionnaire and drew conclusions about students' recognition of online learning platform and the distribution of platform users
- Applied NLP method to analyse text emotion based on subjective questions of questionnaire and drew a conclusion that a small percentage of students (10%) strongly disagree with online learning platforms while 72% of students have made suggestions or have a tendency to make suggestions
- Submitted a report *A Research into the Application of Online Learning and Teaching Platforms in Chongqing University* to the First English Academic Seminar in Chongqing and obtained Excellent Project Report Award

Research and Optimization Design of Generalized LDPC Code for Mobile   06/2019-06/2021
HD Video Transmission (National Natural Resources Foundation Program)

Research Assistant, Institute of Pattern Recognition and Information Processing, School of Computer Science, CQU
Supervisor: Yong Li, Associate Professor, School of Computer Science, CQU

- Participated in basic knowledge training to acquire information theory knowledge, code word and coding, LDPC error correction code and other knowledge and skills
- Used CUDA to build the experimental platform
- Applied Python to generate test codes and tested the performance of the codes on the experimental platform

INDUSTRIAL EXPERIENCE

China Soft International Co., LTD., No.34 Jinghe RD, Shapingba Dist, Chongqing, China   06/2020-08/2020
Virtual Project Manager & Demand Analyst & Art Designer & Front End Engineer, Student Practice Department

- Analyzed project requirements and wrote project requirements analysis report
- Used Axure tools to design prototype and defined interaction logic of the project based on project requirements
- Used the Django framework to develop back-end programs
- Determined the design style and art resource library of the front-end UI of the project
- Used VUE for front-end development based on UNI-APP framework
- Deployed the project to the server, won the Excellent Project in the internship evaluation, and provided open-sources codes in GitHub

Chongqing Shapingba District Ciqikou Community Street Office, Chongqing   01/2020-03/2020
Hunan Yiyang Environmental Ecology Bureau, Yiyang, Hunan   06/2020-08/2020
Information Systems Maintainer

- Worked as basic community information system maintenance engineer
- Checked system performance and optimized the system for possible problems regularly

SKILLS

Languages: Mandarin Chinese (Native), English (Proficient), French (Elementary, Basic Reading), Cantonese (Conversational), Japanese (Elementary)
Computer Skills: C, C++, Java, Python, Pytorch, TensorFlow, NLP, Go-lang , MATLAB, SQL, Web developing, Data Mining, Verilog and Hardware design based on FPGA
Other Skills: SPSS

HONORS & AWARDS

The Second Prize in National English Competition for College Students	05/2019
The Second Prize in Electrical Skills Competition	06/2019
The Second Prize in Yi Chuang Maker Winter Camp FPGA by CQU	02/2019
The Second Prize in Electrical Design Competition	02/2020
The Second Class Excellent Academic Scholarship awarded by CQU obtained twice	12/2019,07/2020
The Third Class Excellent Academic Scholarship awarded by CQU	07/2019
Excellent Leader of the Youth League of China awarded by CQU	05/2019
Excellent Team of Summer Social Practice of CQU	10/2019

AREAS OF EXPERTISESE

Machine Learning, Information Theory & Coding Theory, Data Mining