RESUME

Zijian Zhao

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EDUCATIONAL BACKGROUND

2020.09-2024.07 **Sun Yat-sen University** **Computer Science and Technology Bachelor**
GPA: 3.9/4 (90/100) **CCF-CSP: 320** **IELTS: 6.5 CET-4: 605 CET-6: 561**

Rank first in: Computer Programming, Data Structures and Algorithms, Embedded Systems, Distributed Systems, Complex Variables, Mathematical Analysis, Advanced Algebra, Probability and Statistics, Discrete Mathematics, Principles of Compilers

Experience:

2022.03-2024.07: **National Basic Subject Talent Training Plan** School of Computer Science and Engineering, Sun Yat-sen University
2023.08-2024.08: **Visiting Student** Shenzhen Research Institute of Big Data

Research Interest: NLP & MIR & Multi-modal, Federated Learning & Sensing, Robot & Reinforcement Learning
I am also interested in exploring new areas with a strong interest in computer science, AI, and mathematics.

CAMPUS EXPERIENCE

A. Research Experience

1. Improve Chord Recognition Algorithm by Knowledge Distilling (independently accomplish)
Description: Knowledge Distilling (KD) was first introduced to Automatic Chord Recognition (ACR) problem to compress model and get better real-time performance and accuracy. Besides, the influence of different networks and loss functions on the result was also explored in the project. Currently, I'm trying some Reinforcement Learning (RL) methods for the optimization of KD.
Research Production: **Paper: Zijian Zhao: KD-ACR: Knowledge Distilling for Automatic Chord Recognition Model (under revision, first submitted on January 31st 2023 to IEEE Access)**

2. A Rope-driven Bionic Rat Robot with Flexible Spine
Description: We defined a bionic robot rat with a novel structure and features like low cost and high flexibility. Besides, we developed modeling method and multiple RL approaches to make the robot walk and cross obstacles.
Duty: I was mainly responsible for coding work and control group experiment in this project.
Research Production: **Patent: Kai Huang (supervisor) ; Zitao Zhang; Zijian Zhao; Ruoyi Tao: A Motion Control Method for Small Bionic Rat Based on Reinforcement Learning (under review, submitted on April 2023)**
Paper: Zitao Zhang, Yuhong Huang, Zijian Zhao, Zhenshan Bing, Kai Huang (supervisor): Autonomous Locomotion of a Rat Robot Based on Reinforcement Learning, CCF CIRAC 2023, Accepted on August 5th 2023
Zitao Zhang, Yuhong Huang, Zijian Zhao, Zhenshan Bing, Kai Huang (supervisor): Adaptive Quadruped Locomotion of a Rat Robot Based on a Hierarchical Reinforcement Learning Framework (under revision, first submitted to IEEE SMC on April 2023)

3. 2023 College Students' Innovative Entrepreneurial Training Plan Program "Piano Music Generation Based on BART"
Description: We introduced Bart to music generation problem. And we constructed a PianoBart model by designing novel MLM methods to realize some downstream tasks in the field of piano music information like music generation and style classification.
Duty: I'm the host in this project and mainly response for model building and coding work.
Current Achievements: Compared to previous models, the pre-training speed of our PianoBart has improved by about 12 times and our model has the ability to process longer music sequences.

4. 2021 College Students' Innovative Entrepreneurial Training Plan Program "Implementation of a Compressed Sensing Algorithm Based on DSP"
Description: We designed a random compressed sensing radar with finite frequency set, which helps to solve the problem of large computation when recovering random modulated signal.
Duty: As a member, I mainly learned relevant knowledge in the project and did some information searching work.

B. Extracurricular Activities

Skilled in musical instruments,I have joined in the Guitar Association and the Original Music Club and have formed several bands since entering the university. I have written quite a few songs launched in the name of the bands of NEWS and Rights of Lethe and have organized and participated in some shows. Moreover, I also hold interest and participated in volunteering work.

MAIN CERTIFICATE

1. First-class Scholarship for Outstanding student of Sun Yat-sen University
2. Meritorious Winner in the Mathematical Contest in Modeling (served as team leader)
3. Provincial First Prize in the Chinese Mathematics Competitions
4. Second Prize in Asia and Pacific Mathematical Contest in Modeling (served as team leader)
5. Provincial Second Prize in SPSS University Contest in Modeling (served as team leader)
6. Provincial Third Prize in the Chinese Mathematics Competitions (served as team leader)

PROFESSIONAL SKILLS

I'm familiar with C/C++, Python, and Matlab.
Besides, I also have a general idea of Java, MySQL, Git, and Linux.

ABOUT ME

I possess leadership ability. Acting as a team leader in projects and competitions, I can activate members' enthusiasm and efficiency by assigning work according to their aptitudes. Given my inquiring mind, I hold great interest in research work. Moreover, I have strong sense of time and never delay finishing tasks.