Nanjun Zhou

Guangzhou, Guangdong | 202130561134@mail.scut.edu.cn | 18066111058

EDUCATION

South China University of Technology (SCUT) **Guangzhou, China**
Bachelor of Computer Science & Technology *(Expected Jun.2025)* Jul.2021-present
Innovation Class (highly selective Honors Program with only 30 out of around 500 computer science students)

- **Current GPA: 3.77 / 4.00**
- **Weighted Average GPA: 88.73/100**
- **Relevant Coursework:** Mathematical Analysis I &II, Linear Algebra and Analytic Geometry, Discrete Mathematics, Data Structure, The Design and Analysis of Computer Algorithms, Computer Organization and Architecture, Computer Networks, Operating System, Software Engineering, Database

SKILLS

Programming: **Python, C++, Java, SQL, Ruby, HTML, Linux**
Software & Tools: **MATLAB, SPSS, Stata, VMWare, Proteus, Arduino**
English Proficiency: **IELTS: 8.0, GRE: 324+4**

RESEARCH PROJECTS & EXPERIENCE

Backdoor Defenses for Audio AI Models- HKUST-GZ **Guangzhou, China**
Research Assistant (Under guidance from Professor Liu Li, HKUST-GZ) Jan.2024-Present

- Independently conducted **a comprehensive summary** of the existing backdoor attacks and backdoor defenses in the **audio domain**;
- Independently reproduced some existing attacking methods and organize these programs into a unified framework using **PyTorch**, reaching good attacking effects;
- Collaborating with a PhD candidate to perform **pruning defenses** based on **Activeness-Aware Fine-Tuning**, aiming to propose a new backdoor defense method for audio models.

Backdoor Attack Detection for DNN based on Sensitivity **Guangzhou, China**
Researcher (Under guidance from Professor Patrick Chan, SCUT) Jul.2023-Present

- Worked with 5 teammates to **conducted a survey** of the existing backdoor attacks and defenses in **computer vision** domain;
- Led team members to conduct backdoor attack experiments and analyze the output data of the model using **PyTorch**, finding the sensitivity property of the attacked models;
- Conducting experiments to propose a new **pruning algorithm** to mitigate the negative effects of backdoor attacks.

Construction of Music Emotion Dataset (SCUT Data Science and AI Lab) **Guangzhou, China**
Project Developer Mar.2023-Mar.2024

- Worked in group to collect over 2,000 songs music of different emotions (surprise, happy, sad, etc.) and build a music database using **Python crawlers**, which can be further used for **AI emotions recognition tasks**;
- Collaborated with 30 music majors and non-major students to label the data in the database;
- Using **MIDITok** to convert music data into MIDI data and textual data, which is more convenient for model training;
- Developing **an online system** to introduce the music dataset and provide download function using Python, where the website is publicly available.

INTERNSHIP EXPERIENCE

Hong Kong University of Science and Technology **Guangzhou, China**
Research Assistant Intern Jan.2024-Present

- Responsible for inviting guest speakers via email and designing even schedule for AI Seminars in 2024 Spring semester;
- Assisted the team in general operations and finance work, such as coordinating and collecting employee onboarding materials and other information.

Nanjing Hongtu Artificial Intelligence Technology Research Institute **Nanjing, China**
Image Algorithm Intern Jul.2023-Aug.2023

- Learned to understand **skin image processing methods** for acne symptoms and extract acne features from images;
- Collaborated with colleagues in an intelligent testing program for **acne skin diseases** using **PyTorch.**

SUMMER SCHOOL PROJECTS

2023 Artificial Intelligence and Machine Learning-National University of Singapore (NUS) **Singapore**
Participant Jul.2023

- Attended a week-long course on Artificial Intelligence and Digital Image Processing;
- Collaborated with 3 students from other universities to complete a **traffic sign recognition project** based on **YOLO**.

COURSE-BASED PROJECTS

Data Structure Project Design: A Maze Game **Guangzhou, China**
Developer &Group Leader Jan.2024-Present

- Led a team of 5 students to develop a maze game with **data structures** to increase the program efficiency and implement multiple functions through Python.

Deep Learning Project Design: Mathematical Formula Recognition **Guangzhou, China**
Developer &Group Leader Jan.2024-Present

- Trained a **Transformer model** to complete the formula recognition task based on bidirectional training strategy and developed a recognition system.

HONORS & AWARDS

- SCUT School Scholarship: Third Prize Sept. 2022
- SCUT School Merit Student Sept. 2022
- 2022 National Mathematical Modeling Contest (Guangdong): Third Prize Oct. 2022
- 2022 Asia and Pacific Mathematical Contest in Modeling (APMCM): Third Prize Nov. 2022
- 2023 MathorCup Mathematical Contest in Modeling: Third Prize Apr. 2023

OTHER SKILLS & INTERESTS

Languages: **Mandarin (Native), Cantonese (beginner), English (Fluent)**
Personal Interests: **Swimming, Billiards, Photography, R&B Music**