DONGPING CHEN

he/him

Junior Student,
HUST

Personal info

* 06/12/2003
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* cdp_0612@163.com
* HUST, Qinyuan Student Dormitory, East 12 Building, Guanshan Sub-district, Wuhan, Hubei, China

Links

* Github Homepage
* Personal Homepage

Skills

* C++, C, Python, Bash, Java, Unity, MySQL
* LaTeX, HTML, CSS
* Linux, Windows, macOS
* LLM & Multimodal Model Fine-tuning, Prompt Engineering

EDUCATION

Computer Science and Technology

HUAZHONG UNIVERSITY OF SCIENCE AND TECHNOLOGY   SEP 2021 – PRESENT

Grade: 3.6/4, ranking 5th out of 60 students

Degree: Bachelor of Engineering

Major: Big Data Science and Technology

Subsidiary subject: Machine Learning, Computer Vision

In-depth study: Natural language Processing, Multimodal

Language: TOEFL Score: 101, CET-4: 664, CET-6: 612

PUBLICATION

Dongping Chen. Aggregate, Decompose, and Fine-Tune: A Simple Yet Effective Factor-Tuning Method for Vision Transformer. arXiv preprint arXiv:2311.06749, 2023.

RESEARCH EXPERIENCE

Online Research Internship Under Professor Lichao Sun

Part-time, Research Intern

SEP 2023 – PRESENT

- Under the guidance and supervision of Professor Lichao Sun at Lehigh University, I engaged in in-depth research on multimodal models in knowledge representation, Trustworthy Large Language Models (LLMs), and backdoor detection.
- Research on fine-tuning multimodal model for visual-spatial reasoning

    – Lead a project centered on advanced multimodal models to employ text-guided techniques to generate bbox for non-existent entities.
    – Tend to enhance the model's imaginative capabilities and establish a streamlined pathway for text-to-image modifications.

Internship in Professor Yao Wan's lab

Part-time, Research Intern

AUG 2023 – PRESENT

- Do research on LLM as code generator. Also works on NaturalCC-v2, which is an Open-Source Toolkit for Code Intelligence.

Scientific Research Program under Professor Pavlos Protopapas

Full-time, Summer Internship, Group Leader, Paper Writer

JUL 2023 – AUG 2023

- Collaborated with Professor Pavlos Protopapas's research group, focusing on the exploration of parameter-efficient fine-tuning (PEFT) strategies.
- Developed a refined model named Efficient Factor-Tuning (EFFT) that achieved state-of-the- art (SOTA) results.

HUST IDEAL Internship under Professor Bolong Zheng

Full-time Summer Internship, Part-time Internship, Competition participant and researcher

JUL 2022 – APR 2023

- Participated in SIGMOD Programming contest 2023 and achieved 7th Place.
- Participated in 2022 National Big Data and Computational Intelligence Challenges, achieving commendable result.
- Proposed 7-points sliding window algorithm to optimize the case of a line composed of discrete points.

PROJECTS

Research on spatial relation understanding and text-guild visual modification in text2image model

INTERNSHIP UNDER PROFESSOR LICHAO SUN   2023 FALL

Conducted research on advanced multimodal models, such as Kosmos-2, Llava, and Fuyu-8B, focusing on generating objects in defined spatial relationships with pre-existing elements. This involved empirical studies and fine-tuning of these models to enhance their spatial visual grounding capabilities.

Multimodal model, Natural Language Processing, Spatial VQA

Research on Long-tail Large Language Models for Code Generation and Integrate the NaturalCC-v2 Toolkit with LLM

INTERNSHIP UNDER PROFESSOR YAO WAN   2023 FALL

Explored the 'Loss in the Middle' phenomenon in Large Language Models for code generation, implementing Retrieval-Augmented Generation (RAG) strategies to mitigate this issue. Additionally, fine-tuned a specialized code LLM to enhance the generation of high-quality code, and contributed to the development and instruction-following capabilities of the NaturalCC-v2 toolkit.

LLM for Code generation, Instruct tuning, Open-source toolkit

Research on Parameter-Efficient Fine-Tuning(PEFT) for Vision Transformer

INTERNSHIP UNDER PROFESSOR PAVLOS PROTOPAPAS   2023 SUMMER

Engaged in a comprehensive study of cutting-edge machine learning models, including GPT, BERT, YOLO, and ViT. Successfully implemented mainstream PEFT methods on various Vision Transformers among different scales.

Computer Vision, Natural Language Processing, Fine-tuning, LaTeX

SIGMOD Programming contest 2023 in HUST IDEAL

HUST IDEAL INTERNSHIP UNDER PROFESSOR BOLONG ZHENG   2023 SPRING

Under the guidance of Professor Bolong Zheng, collaborated with undergraduates and graduate students within the team to carry out the project. We innovatively proposed graph construction and nearest neighbor search methods in the KNNG (k-Nearest Neighbour Graph) domain.

Nearest Neighbour Search, KNNG, C++

G-bits Network 4th Game Jam

PRIVATE   2023 SPRING

Collaborated on the development of an independent game project and worked with fellow students to create a Unity3D game, I carried out the core design, models, and code of the Game personally and successfully implemented our ideas.

Unity, C, Game design

Visualization of Weibo data for the League of Legends S12 Global Finals

SCHOOL PROJECT   2022 FALL

We developed a specialized spider script in Python for crawling Weibo data. Additionally, we created tools for data retrieval and cleaning (pre-processing) on this platform. Through these processes, we transformed the raw Weibo data into segmented formats suitable for analysis. Finally, by generating word cloud maps, we achieved effective data visualization, providing insights into the patterns and trends within S12 Global Finals.

Data visualization, Data Crawling, Data Analysis

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Languages

- 🅰🈁 Mandarin Chinese (Mothertounge)
- 🅰🈁 Cantonese (Mothertounge)
- 🅰🈁 English (Fluent, TOEFL 101)

Certificates and Prizes

2023   People's Scholarship for Technological Innovation

2023   SIGMOD Programming contest 2023 — 7th place

2023   Mathematical Contest in Modeling — H Prize

2022   HMS Core Application Development Contest — 3rd place

2022   National Big Data and Computational Intelligence Challenge — Winning Team

2022   Huazhong University of Science and Technology Outstanding Student Award

2022   Freshman Academic Excellence Scholarship

Hobbies

- 📷 Photography
- 🎾 Tennis
- 🎞 Edit videos and blogs
- ⚽ Football
- 🎬 Watch Films
- 🎮 Computer games only
- 🎵 Music

华中科技大学
HUAZHONG UNIVERSITY OF SCIENCE AND TECHNOLOGY

UNDERGRADUATE ACADEMIC RECORD

Name: Chen Dongping **Department:** School of Computer Science and Technology **Date of Entrance:** 01/09/2021

Student ID: U202112313 **Major:** Big Data Science and Technology **Length of Schooling:** 4 years

Course	Credit	Result	Course	Credit	Result
			Introduction to Information Technology	1.5	81
2021-2022 1st Semester			**2022-2023 2nd Semester**		
University Chemistry	2.0	87	Advanced Programming Language (JAVA)	2.5	88
Engineering Graphics(I)	2.5	90	Advanced Programming Language Experiments(JAVA)	0.75	98
Military Training	1.0	92	Verilog language	1.0	96
Morals, Ethics and Fundamentals of Law	2.5	85	Big Data Analysis	2.5	93
Tennis(level 1)	0.5	90	Big Data Analysi Experiments	0.5	96
Calculus (I)(A)	5.5	97	College Students' Psychological Health	2.0	85
Linear Algebra	2.5	95	Logic and Computer System Design	4.0	86
Chinese	2.0	90	Experiments of Logic and Computer Design	1.0	98
Comprehensive English(I)	3.5	95	General Introduction to Mao Zedong Thought and Socialist Theory with Chinese Characteristics	3.0	94
2021-2022 2nd Semester			Database System	3.0	92
Advanced Programming Language (C)	3.0	95	Database System Experiments	1.0	98
Advanced Programming Language Experiments	1.0	93	Tennis(level 4)	1.0	82
Physics (I)	4.0	89	Listening to Music	2.0	93
Probability Theory and Mathematical Statistics	2.5	88			
Engineering Training (VII)	1.0	92	Credits:105.0 Cumulative Average Grade:90.1		
Military Theory	2.0	90	GPA:4.48		
Discrete Mathematics(I)	3.5	90			
Data Structure	3.0	90			
Data Structure Experiments	1.0	98			
Ideological and Political Course Social Practice	0.0	B			
Tennis(level 2)	1.0	88			
Calculus (I)(B)	5.5	95			
Experiments of Physics(I)	1.0	80			
Survey of Modern Chinese History	2.5	91			
Comprehensive English (II)	3.5	91			
2022-2023 1st Semester					
Advanced Programming Language (C++)	2.5	84			
Advanced Programming Language Experiments(C++)	0.75	83			
Course Project of Programming	1.0	95			
Big Data Introduction	1.5	73			
Physics (II)	4.0	87			
Wisdom Communication in the New Era	2.0	91			
Complex Function and Integral Transform	2.5	93			
Introduction to Management	2.0	82			
Foundation of Computer System	2.5	90			
Foundation of Computer System	1.0	90			
Discrete Mathematics (II)	1.5	90			
Introduction to Basic Principles of Marxism	2.5	76			
Algorithmic Design & Analysis	2.0	87			
Algorithmic Design & Analysis Experiments	0.75	99			
Tennis(level 3)	0.5	87			
Experiments of Physics(II)	0.75	86			
Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era	3.0	86			

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Provost:

Undergraduate College
Huazhong University of Science and Technology

Issue Date:09/08/2023

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仅限电子阅读使用

成绩单绩点说明及计算公式
The system of Grade Point Average

成绩标注采用以下三种绩点

一、 百分制绩点：

　　95分-100分=5，60分-94分 =1.5-4.9（每1分为0.1绩点）

二、 五级制绩点：

　　优=4.5，良=3.5，中=2.5，及格=1.5，不及格=0

三、 二级制绩点：

　　通过=3.0

　　The system of GPA used for academic transcript of Huazhong University of Science and Technology is established as follows:

一、 Hundred –mark system:

(1) 95～100=5.0，(2) 60～94=1.5～4.9（add 0.1 for every one more point）

二、 Five-grade marking system:

Excellent(A)=4.5；good(B)=3.5；satisfactory(C)=2.5；pass(D)=1.5；Fail=0

三、Two-grade marking system:

Pass=3.0

$$加权平均成绩 = \frac{\sum（课程学分 \times 课程成绩）}{\sum 课程学分}$$

$$Cumulative\ Average\ Grade = \frac{\sum(credits \times grade)}{\sum credits}$$

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