

# CHANGSHUO SHEN

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## EDUCATION

<b>University of Science and Technology of China</b> <i>A Junior Undergraduate in School of Artificial Intelligence and Data Science</i> <i>Class of excellence for science and technology: <b>Yan Jici Talent Program in Physics</b></i> <b>GPA: 3.84/4.3</b> <b>Rank in Class:</b> 6 / 51 <b>Major:</b> Data Science and Big Data Technology <b>Core Course:</b> Linear Algebra B1 ( $A^+$ ), Discrete Mathematics ( $A^+$ ), Mathematical Analysis B1 ( $A$ ), Foundations of Geometry ( $A$ ), Function of Complex Variable B ( $A$ ), Probability Theory and Mathematical Statistics ( $A^-$ ), Computational Method ( $A^-$ ), Principles and Techniques of Artificial Intelligence ( $A^+$ ), Introduction to Data Analysis Programming ( $A^+$ ), Fundamentals of Scientific Programming with Python ( $A$ ), Data Structures ( $A$ ), Introduction to Computing Systems A ( $A$ ), Signals and Systems ( $A$ )	Hefei, China Sep 2023 – now Sep 2022 – June 2023
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## AWARD AND SCHOLARSHIP

• Outstanding Freshman Award(2022-2023) Grade 2(top 15%)	USTC 11/2022
• Basic Disciplines of The Top Plan Student Funding (Yan Jici Talent Program in Physics)	USTC 11/2022
• Di’ao Scholarship	USTC 11/2023
• Huawei Scholarship	USTC 11/2024
• National Encouragement Scholarship	USTC 11/2024
• Second Prize in the 15th National College Student Mathematics Competition	CMS 1/2024

## RESEARCH INTERESTS

<b>Large Language Models:</b> Particularly interested in the development and optimization of large language models, including enhancing their accuracy, efficiency, and ethical implications.
<b>Natural Language Processing:</b> Enthusiastic about leveraging LLMs for various NLP tasks such as text generation, sentiment analysis, and language translation.
<b>AI4Science:</b> Excited about the interdisciplinary applications of AI in scientific research, including accelerating discoveries in physics, chemistry, and biology through AI-driven models and simulations.
<b>Machine Learning:</b> Interested in applying advanced machine learning techniques to improve the training and performance of LLMs.

## SKILLS

<b>Programming Languages:</b> Python, C, C++, R
<b>Markup &amp; Scripting Languages:</b> $\LaTeX$ , Bash, HTML, CSS, JavaScript
<b>Tools &amp; Technologies:</b> Git, Docker, SQL, Jupyter, Torch, Django
<b>Soft Skills:</b> Leadership, Team Collaboration, Problem-Solving, Communication, Public Speaking

## RESEARCH EXPERIENCE

<b>USTC-Software, IGEM Jamboree</b> <i>Group Leader, Code Group</i>	Paris, France October 2024
• Served as the leader of the code group for USTC-Software, leading the development of both frontend and backend components, ensuring seamless integration and optimal performance.	
• Deployed machine learning models on the platform to enhance data visualization and analysis features.	
• Presented the platform in the IGEM Jamboree in Paris, showcasing its functionalities and unique features to a global audience.	
• Engaged with international teams to exchange ideas, foster collaboration, and gather feedback for continuous improvement.	

## Department of Physics, HKUST

Exchange Program Participant

Hong Kong, China

August 2023, one week

- Engaged in an exchange program focusing on the intersection of machine learning and physics, including attending the "When Physics Meets Machine Learning" lecture series.
- Explored cutting-edge research and advancements in both fields under the mentorship of leading experts at HKUST.

## USTC

Hefei, China

Undergraduate Course Project

- Simulated nonlinear dynamical systems using Python, analyzing behaviors and visualizing results. 11/2023
- Collaborated with one classmate to design a GoBang model using Reinforcement Deep Learning, surpassing the performance of the teaching assistant's basic model. 6/2024
- Led a two-person team to design an English club communication platform using the Django framework, providing a user-friendly interface for members to interact and share resources. 7/2024

## TEACHING ASSISTANT EXPERIENCES

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- Discrete Mathematics(Undergraduate Course) 2024 Autumn

## EXTRACURRICULAR ACTIVITIES

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### USTC English Club

Sep 2022 – Present

President

Sep 2023 – Sep 2024

- Planned and coordinated club activities, summarized work, and evaluated outcomes.
- Organized the largest outdoor treasure hunt event in the club's history, the USTC Mystery Hunt.
- Managed the club's official account, designed promotional materials, and wrote publicity articles.

### Department Basketball Team

Sep 2022 – Present

Member

Sep 2022 – Present

- Played in almost all basketball games at USTC, including the Freshman Basketball Tournament, Kexing Cup, and the Four-Nation Battle.

### Fitness, Basketball, and Taekwondo Clubs

Sep 2022 – Present

Member

Sep 2022 – Present

- Participated in various fitness and sports activities, promoting a healthy and active lifestyle.

### USTC Hosting Club

Sep 2022 – Present

Member

Sep 2022 – Present

- Hosted several university events, including "Beautiful Encounter", "Dance Star".
- Participated in and received awards in speech and recitation competitions, showcasing strong public speaking skills.

## STATEMENT OF PURPOSE

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As a junior undergraduate majoring in Data Science and Big Data Technology at the University of Science and Technology of China (USTC), I have developed a solid foundation in mathematics, artificial intelligence, and programming. My coursework, including Principles and Techniques of Artificial Intelligence, Discrete Mathematics, and Data Structures, has equipped me with the necessary skills to pursue advanced research in machine learning and its applications.

My research experiences have further fueled my interest in this field. During a one-week exchange program at HKUST, I explored the intersection of machine learning and physics under the guidance of leading experts. At USTC, I collaborated with peers to design a GoBang model using reinforcement learning, achieving performance beyond the baseline set by teaching assistants. Additionally, I led a project to create an English club communication platform using the Django framework, demonstrating my leadership and technical abilities.

A significant experience was leading the code group for USTC-Software at the iGEM Jamboree in Paris. Here, I developed both frontend and backend components, deploying machine learning models to enhance data visualization and analysis. This project honed my skills in collaboration and innovation, as I engaged with international teams to exchange ideas and gather feedback.

My current research interests lie in the interdisciplinary applications of artificial intelligence, particularly in bioinformatics and scientific modeling. I am captivated by the potential of machine learning models to accelerate discoveries in biology and chemistry, as well as the development of large language models for natural language processing tasks.

Beyond academics, I have been actively involved in extracurricular activities, serving as the president of the USTC English Club and participating in the department basketball team. These experiences have strengthened my leadership, teamwork, and communication skills.

I am drawn to programs that emphasize innovation in AI and offer opportunities for collaboration with leading researchers. With a strong academic background, hands-on project experience, and a passion for solving real-world problems through AI, I am confident in my ability to contribute meaningfully to your program and advance the field through research and application.