

Wang Kairui

Beijing No.101 High School | International Department (In grade 12)

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🗞 laity-kai.github.io

ABOUT ME

A person who chasing for "daydream" and perfecting the pursuits

SKILLS

TOELF Score: 110

SAT Score: 1470

Piano: Level 8

Basketball

Computer and Programming (Python; JAVA HTML CSS MATLAB InDesign)

HONORS

- S. -T.Yau High School Science Bronze
- Award(Top1%). International Math Modeling
 Competition (IMMC)Outstanding Prize(Top1%)
- **HIMCM** M Prize(top 14%)
- ♠ NEC World Top 5 and Top3 in Microeconomic(Top 1%).
- BMO merit
- Conrad National Shortlist
- USAD Mathematics national
- siviler award(Top 3%) /Global Shortlist
 - Founder of EMPIC STEM Club; Founder of EMPIC
- Magazine; Founder of Applied Mathematics school magazine.
 Global Scholar in Beijing101 International Department



EDUCATION

Beijing No.101 High School International Department (In grade 12)

Sep 2022- June 2025 | Beijing, China

Relevant Courses

10th Grade

AP Calculus 5	AP Microeconomics 5		
11th Grade			
IB Chinese A SL	IB Mathematics AA HL	IB English A SL	IB Computer Science HL
IB Physics HL	IB Psychology SL	AP Macroeconomics 5	
12th Grade			
IB Chinese A SL	IB Mathematics AA HL	IB English A SL	IB Computer Science HL
IB Physics HL	IB Psychology SL		

ACADEMIC ACTIVITIES

Yuan Pei Young Scholar Research Program

Dec 2022 | Beijing, China

Role	Researcher & Participant
Description	 ✓ Independently research the relationship between the pandemic and the economic situation of businesses by using mathematic modeling. ✓ Committed to providing an effective and practical solution for the business operations during the pandemic. ✓ Study the basic concepts and applications in math modeling, such as differential equations, partial differential equations, statistics and probability, abstract algebra, and calculus.
Outcome	✓ Write an essay about the pandemic and the economic situation of businesses with practical application in Huawei Company.

Research of Economic Sanctions between China and America in international relationship class

Mar 2023 - July 2023 | Beijing, China

Role	Researcher & Writer
Description	 ✓ Completed a semester of extracurricular courses in international relations class. ✓ Systematically studied the origins, current status, and future developments and changes in international relations, investigated the history of US-China relations. ✓ collected information on the impact that bilateral economic sanctions between the US and China have had on the economies of the two countries, and researched and completed papers
Outcome	✓ Finish the essay about the sanction policies between America and China.

Conrad Competition with the innovation of intelligence blackboard

Apr 2023 | Beijing, China

Role	Participant & Programmer & Writer	
Description	 ✓ Conducted field research to understand teachers' pain points; ✓ Conducted market analysis of blackboard erasers and completed a market analysis report; ✓ Analysed the market share of smart blackboard erasers; led the team to produce smart blackboard erasers that can automatically identify handwriting and erase it, and put them on campus for testing. 	
Outcome	 ✓ Developed and produced a fully automatic intelligent blackboard eraser; ✓ Improved the teaching efficiency of school teachers, saving 3-5 minutes of teacher's time needed to erase the blackboard in each lesson; ✓ Aimed at reducing the possibility of physical illnesses caused by dust in teachers 	

Research of US Federal Child Tax Credit

June 2023 - Aug 2023 | Beijing, China





Role	Researcher & Writer
Description	✓ Study on the Amendment US Federal Child Tax Credit policy and write an overview essay.
Outcome	✓ A critical and holistic view essay about child tax credit policy in U.S.

S.-T. Yau Award Research About Quantum Computing

May 2023 – Nov 2023	Beijing,	China
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Role	Researcher & Participant – Submitted on Yau Magaizne	
Description	 Studied cutting-edge quantum computing technology while learning linear algebra and quantum physics. Integrate and compare with classical computing to enhance computational efficiency. 	
Outcome	✓ Improved the efficiency of classical handwritten digit classification tasks, published a paper, and featured it on Google Scholar.	

HIMCM Nov 2023 | Beijing, China

Role	Participant & Programmer
Description	✓ Studied the dispersion patterns of dandelions, conducted mathematical modeling
Outcome	✓ completed a research paper about dandelion spreading pattern and invasive factor by using math model.

IMMC 2024 National

Apr 2024 | Beijing, China

Role	Participant & Programmer
Description	✓ Investigated the effectiveness of carbon dioxide reduction measures in factories, proposed innovative methods, and completed a research paper.
Outcome	✓ Complete a research paper about effectiveness of CO2 reduction measures and novel method

Research of RSA cryptography and the improved RSA cryptography

Sep 2023 - July 2024 | Beijing, China

Role	Researcher & Writer – Submitted on IJHSR	
Description	 ✓ Coursera online learning complete Stanford cryptography undergraduate course and Stanford undergraduate linear algebra course. ✓ Read nearly 15 modified RSA literature, combined with the past literature to propose a new modified RSA system and the derivation and analysis of the principles, and complete the thesis writing. 	
Outcome	 ✓ Established the basic knowledge of cryptography, practical application of linear algebra and RSA system. ✓ Rroposed improvements to the RSA system, effectively increasing the RSA security and reducing the RSA decryption time. ✓ Submitted on IJHSR 	

Research of Power line Communication and the improved OFDM Algorithm

June 2024 - July 2024 | Beijing, China

Role	Researcher & write
Description	✓ Study and research on novel OFDM and power line communication tech, finding a new method to increase PLC efficiency.
Outcome	✓ Public the research paper about improved OFDM synchronization algorithm



COMMUNITIES & VOLUNTEER ACTIVITIE

BASANZHONG Accompanying Reading Activity

April 2023 - Now | Beijing, China

Role	Leader & Editor

Description	 ✓ The Bashanzhong Companion Reading Program aims to provide one-on-one English classic companion reading activities for students from remote areas, particularly those at Bashanzhong Middle School in Inner Mongolia. ✓ Employ online teaching methods to read English classics, particularly works by O. Henry, A doll House, and To killing a Mocking Bird, with students from Bashanzhong Middle School
Outcome	✓ Two years online reading tutoring program with about 300 participants

ZhongShan Music Hall Volunteer Work

May 2023 - Now | Beijing, China

Role	Leaders & Participants	
Description	✓ Coordinating concert schedules, managing equipment setup, and ensuring audience order. Responsibilities included ticket checks, assisting with seating, and communicating venue rules.	
Outcome	✓ Regular twice-a-week volunteer work at the Forbidden City Concert Hall within one year	

Founder of EMPIC Magazine

Aug 2023 - Now | Beiling, China

Aug 2023 - Nov	
Role	Leader& Editor
Description	 ✓ The EMPIC Society Journal aims to document students' research achievements, publishing them in magazines to foster the circulation of scientific knowledge within the school. ✓ Collect research articles from students and compile them into the society's publication, aiming to ✓ Promote and disseminate their research findings.
Outcome	✓ Published 5 issues, providing 100 students a platform to share 30+ articles

Founder of Applied Mathematics School Magazine

Aug 2023 - Now | Beijing, China

Role	Leader& Editor
Description	 ✓ The Applied Mathematics School Journal documents all research articles related to mathematic. ✓ Provide news updates and conduct school surveys to offer students additional information. ✓ Utilize mathematics to solve real-world problems and investigate the impacts of various topics on humanity
Outcome	✓ Two successive issues of magazine within one year

Founder of EMPIC (Economic/Mathematics/Physics/Computer Science) STEM Club

Aug 2023 - Now | Beijing, China

Role	Founder, Manager, and Editor	
Description	 ✓ The EMPIC STEM club aims to engage students in collaborative learning of STEM disciplines, including economics, mathematics, physics, and computer science. ✓ Focus on interdisciplinary global academic topics such as Bitcoin and quantum physics. ✓ Guide students in conducting individual research activities, delving into specialized academic subjects, and improving their academic writing skills. 	
Outcome	 ✓ Regular Once a week activity ✓ three professor lectures within one semester ✓ about 100 club members and 1000 article page view 	







EXTRACURRICULAR ACTIVITIES (SPORTS, MUSIC, ARTS)

Basketball School Team

Sep 2018 – Oct 2021 | Beijing, China

Role	Participant, Player	
Description	✓ Taking part in the ID Basketball Team is a regular activity every week.✓ prepare and take part in the basketball league competition.	

Piano 2011 – Now| Beijing, China

Role	Participant, Player	
Description	 ✓ Completed the Level 6 piano examination at the China Conservatory of Music. ✓ Practiced approximately 5-10 hours per week. 	

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Internship

Internship in BeiDou Navigation and Digital Twin Technologies, Inc. 20

2024 Aug. | Beijing, China

Role	Participant, Player	
Description	 Learned programming and product development process, tested code for navigation and digital twin products, and contributed to the successful product launch. 	
Outcome	✓ Launched New Product, Finished the Product Design, Programmed 10k+ Java/VUE codes	

