Kun Wang

Machine Learning Researcher · Computer Vision Engineer

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Education

University of California San Diego — *San Diego, California, U.S.*

Bachelor of Science, Mathematics and Computer Science — *Sept 2021 - Current*

- GPA: 3.974/4.000 (Provost's Honors)
- Minors in Economics
- **Courses:** Computer Vision, Deep Learning, High-Performance Data Structures, Computer Systems Programming, Graph Theory, Linear Programming, Abstract Algebra, Probability and Statistics, Multivariable Calculus, Differential Equations, Game Theory, Econometrics

Rutgers Preparatory School — *Somerset, New Jersey, U.S.*

High School — *Sep 2017 - Jun 2021*

- GPA: 4.55/4.00 (Cum Laude)
- Specialised in Physics, Maths, and Computer Science

Research Experience

Rose Spatio-Temporal lab, UC San Diego — *San Diego, California, U.S.*

Undergraduate Researcher with Prof. Rose Yu and Prof. Yian Ma — *May 2023 - Current*

- Engaging in an in-depth exploration of groundbreaking theoretical concepts related to Deep Learning and Causal Discovery, contributing to the advancement of the field.
- Currently conducting a current research initiative aimed at devising robust Causal Discovery methodologies tailored to interpret spatio-temporal data efficiently and effectively.

Center for Visual Computing, UC San Diego — *San Diego, California, U.S.*

Undergraduate Researcher with Prof. Manmohan Chandraker — *March 2023 - Current*

- Conducting advanced research on the properties of large-scale synthetic image datasets, focused on enhancing object detection and semantic segmentation tasks.
- Engaging in a detailed investigation of the performance and behaviors of large-scale synthetic image datasets in perception tasks, specifically within the realm of autonomous driving. This includes a thorough performance validation using Faster-RCNN, YOLOv3, and FCN algorithms.
- Skilled in the creation of robust and maintainable Python code, leveraging libraries such as Pytorch and OpenCV, in conjunction with the SHIFT and BDD100K datasets for data manipulation and algorithm training.

The Slade Lab, UC San Diego — *San Diego, California, U.S.*

Undergraduate Research Assistant — *Febuary 2021 - May 2023*

- Implemented extensive probabilistic model on simulating aerosol transmitting in different indoor setting
- Extensive research and model building done in Python and MATLAB regarding trends in aerosol spreading of respiratory diseases under various environments

Xie Lab, TsingHua University — *Beijing, China*

Summer Research Assistant — *June 2017 - July 2019*

- Worked with a research team of graduate students to find new interventions for cancers through genetic means
- Performed statistical analysis on genetic cell therapy experiments results
- Build mathematical models and analyzed experiment results to find plausible conclusion

Work/Volunteering Experience

Computer Science Engineering Department, UC San Diego — *San Diego, California, U.S.*

Computer Science Engineering Instructional Assistant/Tutor — *September 2023 - June 2024*

- Undergraduate Instructional Assistant for CSE 152A, Introduction to Computer Vision
- Provided one-on-one and group tutoring to undergraduate students, addressing questions related to course materials, assignments, and concepts in computer vision.
- Profound understanding of computer vision fundamentals, including image formations, feature extraction, and object detection/segmentation.

Mathematics Department, UC San Diego — *San Diego, California, U.S.*

Mathematical Instructional Assistant/Tutor — *September 2022 - June 2023*

- Undergraduate Instructional Assistant for Linear Algebra and Differential Equations
- Math tutor for calculus and MATLAB
- Extensive experience in teaching on mathematical programming

Student Charity Association *New Jersey, U.S.*

Rutgers Preparatory *Spring 2021*

- Co-founder of the association in the effort to fight against COVID-19
- In charge of the accounting and marketing via social media
- Raised 5000 monetary donations and collected 250+ masks
- The proceeds were donated to Robert Wood Johnson Hospital and American Chinese United Care

Skills

Programming Python (PyTorch, Tensorflow, NumPy, Scikit-learn. etc.), R(ggplot2), PHP, C/C++, HTML/CSS, JavaScript, SQL.

Miscellaneous Linux, Shell (Bash/Zsh), LaTeX(Overleaf/R Markdown), Microsoft Office, Git.

Soft Skills Research, Time Management, Teamwork, Problem-solving, Documentation, Engaging Presentation.

Achievements

2023 **First Place,** Taxi travel time prediction Kaggle Competition *UCSD*

2022 **327/340,** Graduate Record Examinations (GRE) *California, U.S.*

2021 **Cum Laude,** Rutgers Preparatory School *New Jersey, U.S.*

2020 **7/15,** American Invitational Mathematics Examination(AIME) Exam *New Jersey, U.S.*

2020 **126/150,** American Mathematics Competition(AMC 12) Exam *New Jersey, U.S.*

2019 **Third Place,** New Jersey Physics Bowl *New Jersey, U.S.*

2017 **First Place,** International Rubik's Cube Championship Youth Category *Kaosiung, Taiwan*

Extracurricular

Rubik's Cube I have been passionate about speedcubing since middle school. The founder of the Rubik's Cube Club at Rutgers Preparatory.

Trumpet Since middle school, I have been playing the trumpet and had the opportunity to lead the orchestra in the high school musical.

Cross Country I have participated in Cross Country since high school, a member of the Junior Varsity team of Rutgers Preparatory School.

Tennis I have participated in Tennis since high school, a member of the Junior Varsity team of Rutgers Preparatory School.

Languages

English Professional proficiency

Mandarin Native proficiency

References available upon request.