Kun Wang

MACHINE LEARNING RESEARCHER · SOFTWARE 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: 3.976/4.000 (Provost's Honors)
- Minors in Economics

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*

- Spearheaded the development of novel causal discovery algorithms for analyzing spatiotemporal data, outperformed current state-of-the-art benchmarks by a significant margin.
- Utilized Pytorch to implement deep learning models, contributing to two research papers under review for publication in top-tier conferences.
- Awarded the HDSI Undergraduate Scholarship in recognition of a breakthrough in machine learning research, demonstrating potential applications in climate modeling and predictive analytics.

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

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

- Led the development of a novel Vision-Language Processing framework to optimize layout generation, significantly improving model accuracy and efficiency by integrating advanced Prompt Engineering techniques.
- Collaborated with a cross-disciplinary team to fine-tune Large Language Models for enhanced rendering capabilities, contributing to groundbreaking advancements in computer vision and natural language processing.
- Engineered robust Python software for large-scale image dataset analysis, leveraging PyTorch and OpenCV, which resulted in a 20% improvement in model performance for perception accuracy.

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 settings
- Extensive research and model building done in Python and MATLAB regarding trends in aerosol spreading of respiratory diseases under various environments

Work Experience

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

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

- 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

O-STEM, Queer in AI — *Remote*

Volunteer Organizer — *Winter 2024*

- Coordinated with multiple stakeholders to ensure diverse and inclusive representation in panels and discussions
- Implemented strategies to increase membership and engagement within the Queer in AI community
- Facilitated collaborations with allied organizations to advocate for equitable practices in AI research and industry

Skills

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

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

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

Languages English, Mandarin