

Juntang Wang

+86 137 0626 7747 • +1 919-201-4521 • jw853@duke.edu • tang.qggiyx.com

EDUCATION

Duke Kunshan University (DKU) & Duke University Dual Degree

Class of 2026

B.S. in Applied Math & Computational Science; Computer Science Track (DKU)

Kunshan, China

B.S. in Interdisciplinary Studies; Applied Math & Computational Science; Computer Science (Duke).

Durham, USA

- GPA: 3.8/4.0; Dean's List with Distinction (24FA, 24SP), Dean's List (23FA)
- Courses: Deep Learning (A+), Machine Learning (A+), Matrix/Graph/Network Analysis (A+), Databases (A+), etc.
- Service: Supported classmates at Duke as Kunshan Student Orientation Peer; Led weekly training sessions as Kendo Club Training Leader...

HONORS & AWARDS

Stanford RNA 3D Folding (Kaggle)

Feb 2025 - Sep 2025

Bronze Medal (Top 8%, 1500+ teams)

Online

PROJECTS

mheatmap

- Developed a Python package for proportional heatmap visualization and spectral reordering, well-received by the community (600+ GitHub stars).
- Adopted by research groups and cited in multiple academic papers.

pvsqtsnepi

- Implemented the [SG-t-SNE-II algorithm](#) in Python from scratch, making state-of-the-art dimension reduction more accessible to researchers.
- Improved ease of integration for data scientists by providing clean, well-documented APIs.

PUBLICATIONS

- Shu Kit Eric Tam, **Juntang Wang**, Aleksandra Stryjska, Pascal Grange, Sze Chai Kwok. (2025). "Martian Photoperiod Attenuates Waking Theta Activity at Night and Disrupts Short-term Object Memory in Mice Despite Circadian Realignment." [In proceeding] *iScience*.
- **Juntang Wang**[†], Yihan Wang[†], Hao Wu, Dongmian Zou, Shixin Xu (2025). "Brain-Inspired Perspective on Configurations: Unsupervised Similarity and Early Cognition." [In proceeding] *15th International Conference on Brain Inspired Cognitive Systems (BICS)*.
- **Juntang Wang**, Hao Wu, Runkun Guo, Yihan Wang, Dongmian Zou, Shixin Xu (2025). "Mixing Configurations for Downstream Prediction." [In proceeding] *The 39th Annual Conference on Neural Information Processing Systems (NeurIPS)*.
- Shu Kit Eric Tam, **Juntang Wang**, Sze Chai Kwok. (2025). "Can the mammalian circadian system adapt to the Martian photoperiod?" *The 18th Annual Meeting of Chinese Neuroscience Society (CNS)*.
- Yihan Wang[†], **Juntang Wang**[†], Xinze Xu, Yihen Han, Qinyi Chen, Ghulam Hussain, Xiawa Wang. (2025). "Analyzing temperature-induced phase transitions in $\text{Pb}_{10-x}\text{Cu}_x(\text{PO}_4)_6\text{O}$." *17th International conference on materials chemistry (MC17)*.

RESEARCH EXPERIENCE

Unsupervised/semi-supervised methods for biomedical tasks

Mar 2024 - Present

Signature Work; Research Assistant. PI: [Prof. Shixin Xu](#)

Kunshan, China

- Researched on topics like 16S rRNA for bacterial culture media prediction and acute ischemic stroke reperfusion decision-making, etc.
- Utilized techniques like clustering, neural networks, ordinary differential equations to solve real-world problems; Developed novel models.
- Produced 2 conference papers and 1 thesis.

Classifying vigilance states in mouse EEG/EMG data

Mar 2025 - Aug 2025

Summer Research Scholar. PI: [Prof. Shu Kit Eric Tam](#) & [Prof. Sze Chai Kwok](#)

Kunshan, China

- Studied how the Martian photoperiod affects the mammalian circadian system and sleep/wake patterns in mice and methods for vigilance state classification.
- Implemented a convolutional neural network to classify vigilance states using mouse electroencephalography (EEG) and electromyography (EMG) data.
- Produced 1 conference paper and 1 journal article.

Unsupervised segmentation in hyperspectral imaging

Jun 2024 - Dec 2024

Summer Research; Independent Study. PI: [Dimitrios Floros](#), [Prof. Nikos Pitsianis](#) & [Prof. Xiaobai Sun](#)

Durham, NC

- Studied precursor clustering/community detection methods, and applied them to hyperspectral imaging. Collected >5 methods and >10 datasets.

- Utilized tools like Python (sklearn), MATLAB, Julia and techniques like k-nearest neighbor graph, [Stochastic Graph t-SNE](#) and [Parallel Clustering with Resolution Variation](#) in the study.
- Developed python packages [mheatmap](#) and [pysgtsnepi](#) aiding post and pre-processing of HSI data.

Photon & exciton dynamics, photoluminescence, and superconductivity

Jan 2024 - May 2024

Research Independent Study. PI: [Prof. Xiawa Wang](#)

Kunshan, China

- Researched on topics like temperature-induced electronic, magnetic, and structural properties in solid-state materials including $\text{Pb}_{10-x}\text{Cu}_x(\text{PO}_4)_6\text{O}_3$ (LK-99), $\text{KBaLnB}_2\text{O}_6$ ($\text{Ln}=\text{Gd}, \text{Yb}, \text{Tb}$), etc.
- Utilized tools like temperature-dependent X-ray diffraction, Raman spectroscopy, and density functional theory (DFT) calculations to study photoluminescence, phase transitions and ferromagnetism in these trending or rare-earth materials.
- Produced 1 conference paper.

SKILLS

Programming & Analysis: Python, R, MATLAB, Julia, Wolfram, Java, C/C++, C#, Bash

Data & Web: PostgreSQL, MongoDB, HTML/CSS, Cloudflare

Tools: LaTeX, Markdown, Unity, Generative AI tools (e.g., Cursor, Stable Diffusion)

Languages: English (Fluent), Mandarin (Native), Japanese, French

TEACHING

MATH 302: Numerical Analysis

Jan 2025 - Mar 2025

Teaching Assistant. Instructor: [Prof. Dangxing Chen](#)

Kunshan, China

- Supported instruction in numerical analysis topics such as root finding, interpolation, numerical differentiation and integration.
- Led weekly recitations on Python/MATLAB implementations of numerical methods, and introduced supplementary material from CS 521 to deepen students' understanding.
- Received positive feedback for making abstract methods more accessible through coding demonstrations.

CS 521: Matrix, Graph, and Network Analysis

Aug 2024 - Oct 2024

Teaching Assistant. Instructor: [Prof. Xiaobai Sun](#)

Durham, NC

- Assisted in teaching a graduate course covering topics such as the Perron–Frobenius Theorem (PageRank), Graph Laplacian (Fiedler Vector), and spectral embedding.
- Led recitations and office hours to review assignments and clarify concepts. Managed the course Canvas site and code base, provided Python implementations in addition to the MATLAB code supplied by the instructor, graded homework, and delivered a guest lecture comparing embedding spaces and clustering methods.
- Received positive feedback from both the instructor and students for making course administration more efficient and concepts more accessible.

MATH 101: Calculus

Feb 2024 - May 2024

Teaching Assistant. Instructor: [Prof. Dangxing Chen](#)

Kunshan, China

- Assisted in teaching a class of 40+ students, covering topics such as derivatives and integrals.
- Led weekly recitations on course material and practice problems.
- Received positive feedback for helping students strengthen their foundations and fostering interest in the math major.

WORK EXPERIENCE

Resident Assistant

Aug 2024 - Present

Res Life, DKU

Kunshan, China

- Helped student residents with academic and personal issues, catalyzed an engaging community.
- Handled 50+ incidents; served 3 years.
- Wrote a Python script scraping Reddit images and resident roster for automatic door decoration creation, used by peer RAs.

Product Analyst, Intern

Jul 2023 - Aug 2023

Second DX Division, NTT Data

Wuxi, China

- Assisted in development (backend) and the literature review on topics like LLMs, agentic systems, etc.
- Authored a professional report on software-related industries in China, focused on AI innovation.

Banker, Intern

Feb 2024 - May 2024

Business Department, Bank of Huaxia

Kunshan, China

- Assisted in investigating the client business, including credit analysis, market research, etc.
- Drafted 50+ audit reports on local electronic enterprises, conducted in-depth industry research.

XTRA INFORMATION

Interests: Anime, Comics & Games (ACG), cooking, gym.