

# Xin(Allen) Wang

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## EDUCATION

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### University of California, Santa Barbara

Goleta, CA

*B.S. Statistics and Data Science, Overall GPA: 3.88/4.0*

*Aug. 2019 – Jun 2023*

- Graduation with College Honors

### Vanderbilt University

Nashville, TN

*M.S Computer Science, GPA: 4.0/4.0*

*Aug. 2023 – May 2025*

- Graduate Fellowship

## EXPERIENCE

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### Undergraduate Teaching Assistant

Sep 2022 – Jun 2023

*UC, Santa Barbara, PSTAT Department*

*Goleta, CA*

- Assisted teaching in Statistical Machine Learning, Regression Analysis, and Big Data Analytics courses
- Held lab/office hours to help students with homework and coding problems

### Algorithm Engineer Intern

June 2022 – Aug 2022

*PING AN TECH, Intelligent City Group*

*Shenzhen, China*

- data mining and analyzing monthly macro-data of cities (e.g. Shenzhen, Nanchang)
- Modeled and predicted future economic performance (e.g. GDP) with an LSTM-based model
- Cleaned the Policy Database used for the NLP model training

### Algorithm Intern

Jun. 2021 – Aug. 2022

*BOSERA FUND, Index and Quantitative Department*

*Shenzhen, China*

- Collected and analyzed the information on daily stock transactions
- Mastered the applications of various Models (e.g. Black-Scholes) in the stock market
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## RESEARCH EXPERIENCE

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### Network and Data Science (NDS) Lab | Vanderbilt University

Aug 2023 – Present

- Research areas: Topological Deep Learning, Graph ML for Science, Equivariant GNNs
- Built a pipeline to represent molecules as cellular complexes and applied cell neural networks
- Explore molecules as cellular complexes in 3D space and build equivariant neural networks for molecular representation and molecule dynamics

### Caves Lab | UC, Santa Barbara

Nov 2022 – Jun 2023

- Developed a program for identifying and measuring visual acuity features from 2D bee images
- Analyzed gathered data and examined its correlations with aspects of bee ecology
- Created a **poster** and gave the report under the UCSB Data Science Initiative

### Geometric Intelligence Lab | UC, Santa Barbara

Jan 2023 – Present

- Contributed to the beta distribution files and tutorials in *Geomstats* package
- Conducted **brain decoding** with manifold learning and deep learning methods
- Debugged Cell Attention Network and created a new training tutorial in *TopoModelX* Package

### Math Directed Reading Program | UC, Santa Barbara

Jan 2022 – May 2022

- Conducted a study on *Universal Approximation Theory* and its applications
- Created a **poster** to give an oral presentation of learning outcomes and won the People Choice's Award

### Movelab | UC, Santa Barbara

Aug 2022 – Jun 2023

- Developed an algorithm to detect the anomalies of human movement influenced by wildfire in California
- Simulated and predicted human behaviors during a wildfire in the spatial-temporal scale

## TECHNICAL SKILLS

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**Languages:** Java, Python, C/C++, SQL (Postgres), JavaScript, HTML/CSS, R

**Frameworks:** React, Node.js, Flask, JUnit, WordPress, Material-UI, FastAPI

**Developer Tools:** Git, Docker, TravisCI, Google Cloud Platform, VS Code, Visual Studio, PyCharm, IntelliJ, Eclipse

**Libraries:** pandas, NumPy, Matplotlib