Xuhui (Daniel) Zhan

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EDUCATION

MS Data Science   Aug 2023 - May 2025
Vanderbilt University, Nashville, TN 3.98/4.00 (Graduate Teaching Fellowship)

BS Data Science   Aug 2018 - Jun 2022
Beijing Normal-Hong Kong Baptist University, Zhuhai, CN 3.5/4.0 (First Class Honours, Highest Distinction)

BS Data Science   Aug 2018 - Jun 2022
Hong Kong Baptist University, Hong Kong, CN 3.5/4.0 (Joint Degree with Beijing Normal-Hong Kong Baptist University)

EXPERIENCE

Lead AI & Data Science Researcher   Oct 2023 – Present
Vanderbilt University — AI Negotiation Lab, Nashville, TN

- Built an LLM pipeline that auto-codes negotiation transcripts, cutting per-transcript cost from $5 000 to $3 (>99% savings) and boosting human–AI agreement from 30% to 80%.
- Developed a novel algorithm that injects population-level variation into LLM negotiator agents, yielding realistic and diverse subject pools for negotiation studies.
- Lead the full ML lifecycle—from data engineering through Web deployment—while collaborating closely with negotiation scholars and data-science peers.
- Work presented at the 2025 AINegotiationSummit (Harvard/MIT) and the International Association for Chinese Management Research annual meeting.

Graduate Research Assistant   Jun 2024 – Present
Vanderbilt University — Networked Data Science Lab, Nashville, TN

- Designed a unified fusion framework that integrates vision, graph, and language modalities
- **Vision–language:** refactored LLaVA to eliminate the projection pre-training stage, cutting compute costs by 25% and halving data requirements while matching SOTA accuracy on nine public benchmarks.
- **Graph–text:** built a TGAT–LLM pipeline that generates high-quality social-network text attributes; validated on Venmo and Amazon Reviews datasets, outperforming token-level baselines on relevance and fluency metrics.

Professional Research Assistant   Oct 2023 – Jan 2025
Vanderbilt University — College of Arts & Science, Nashville, TN

- Boosted ancient-mortar classification accuracy from 60% to 97% with Vision Transformers on 10M images.
- Invented a vision-only provenance algorithm, reducing similarity-analysis runtime from months to minutes; manuscript in preparation for *Nature Methods*.

Graduate Teaching Assistant   Aug 2023 – May 2025
Vanderbilt University, Nashville, TN

- Lead labs, grade, and tutor 120+ students across four data-science courses.

Algorithm Development Engineer   Jul 2022 – Apr 2023
Suzhou AGV Robot Co. Ltd., Suzhou, CN

- Shipped computer-vision storage-detection system to ~30 warehouses, increasing pick accuracy 15% and reducing manual checks 80%.
- Optimised ROS localisation algorithm, cutting AGV positional error from 5cm to 1cm.
- Standardised deployment toolchain (PyTorch → ONNX → Django), enabling one-click rollout company-wide.

SKILLS

Languages	Python, C++, SQL, R, Bash
ML Frameworks	PyTorch, TensorFlow, HuggingFace, scikit-learn, PyG
MLOps & Serving	Docker, ONNX, FastAPI, MLflow, DeepSpeed, Git
Data & Cloud	Spark, AWS, GCP, MongoDB, Redis

PROJECTS

StreamSlide: AI-powered PDF to PowerPoint Generator
Automatically creates structured PowerPoint presentations from PDFs | Integrates Google's Gemini API for content extraction and captioning | Customizable prompts, themes, and presentation duration | Vanderbilt 2025

NoSQL ChatBot with Tone Mimicing
Chatbot application using Python and Redis | Integrates OpenAI's language model | Features real-time data retrieval and multi-channel communication | Vanderbilt 2024

Real-time Audio-To-Audio Translation System with Voice Mimicry
Speech translation system that preserves speaker characteristics | Vanderbilt 2024

Crowd Counting via Computer Vision
Non-YOLO based crowd counting method | SOTA in 2022 | BNBU 2022

Data Augmentation & Image Enhancement via Collaborative Filtering
Super-resolution for images inspired by collaborative filtering | Patent Pending | BNBU 2021

AWARDS

Vanderbilt Graduate Teaching Fellowship *Aug 2024, Jan 2025*　　　　　　　　　　　　Vanderbilt University
Awarded for excellence in teaching; served as a TA for multiple courses with tuition support.

Dean's Honor List *2018-2022*　　　　　　　　　　Beijing Normal-Hong Kong Baptist University
Recognized for maintaining outstanding academic performance across multiple semesters.

Outstanding Graduation Thesis Award *Apr 2022*　　　　　　Beijing Normal-Hong Kong Baptist University
Honored for producing one of the top-ranked undergraduate theses in the college.

Diamond Leadership Award *Oct 2021*　　　　　　　　Beijing Normal-Hong Kong Baptist University
Highest distinction in the Student Leadership Path Program, awarded for exceptional contributions to university societies, student organizations, and leadership initiatives.

CHAMPION – MEN'S 4×100M RELAY RACE *Mar 2021*　　　Beijing Normal-Hong Kong Baptist University
Won first place in the campus-wide 4×100m relay race, demonstrating teamwork, speed, and athletic excellence.

Outstanding Peer Mentor Award *Oct 2020*　　　　　　Beijing Normal-Hong Kong Baptist University
Recognized for mentoring first-year students and supporting their transition into college life.

GREATER BAY AREA UNIVERSITY DEBATE COMPETITION – RUNNER-UP *Mar 2019*
Achieved 2nd place in the premier inter-university debate competition across Hong Kong, Zhuhai, and Macau, demonstrating excellence in argumentation and critical thinking.

GOLD MEDAL – 3KM MINI-MARATHON *Nov 2018*　　　Beijing Normal-Hong Kong Baptist University
Placed 4th out of all competitors in the campus-wide 3km mini-marathon, demonstrating endurance, discipline, and competitive performance.