YUCHENG XING

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SUMMARY

Ph.D. Candidate in Electrical Engineering at Stony Brook University with 8+ years of AI research in **computer vision, graph neural networks, time-series forecasting, and generative diffusion models**. Experienced in **large-scale model training and deployment** and **building efficient end-to-end ML pipelines for computer vision applications**, with multiple **first-author publications in international conferences such as ICCV** and reviewer service for top venues including **CVPR, ICCV, NeurIPS, ICML**.

TECHNICAL COMPETENCIES

Programming Languages	Python, C++, Matlab
Professional Tookits	PyTorch, TensorFlow, Scikit-learn, OpenCV
Systems	Linux, Git
Specialties	Generative AI (Diffusion Models), Computer Vision (Detection, Generation, etc.), Time-Series Analysis (Neural Differential Equations), Graph Modeling

EXPERIENCE

Stony Brook University, Stony Brook, New York, United States *2021 - Present*
Ph.D. Researcher

- Developed hierarchical dynamic graph ODE model (**ICCV 2023, First Author**), achieving state-of-the-art accuracy in multi-person 3D pose forecasting with fewer parameters and improved robustness under occlusion.
- Designed input-adaptive CNN with ODE kernel generation (**arXiv 2024, First Author**), compressing model size by $10\times$ with no accuracy loss.
- Created controllable diffusion model (**arXiv 2024, First Author**) that reduces inference time while preserving quality by adaptively deciding the generation steps.
- Advanced graph-based models for irregular time-series, including a differential ODE+SDE framework for robust forecasting under sparse and missing data (**ICONIP 2023, First Author**), and an unsupervised blind-spot GNN for real-time denoising without clean supervision (**ICONIP 2024, First Author**).
- Collaborated on an **NSF-funded AI-Grid project** for smart microgrids, applying GNNs for real-time power grid monitoring and anomaly detection.

Stony Brook University, Stony Brook, New York, United States *2017 - 2020*
Teaching Assistant

- Supported course instruction for multiple undergraduate and graduate courses such as *Computer and Robot Vision*, *Data Structure* and *C++ Programming* by designing and grading assignments and exams, and managing office hours and online Q&A.
- Independently led laboratory and tutorial sessions in courses such as *C++ Programming*, *Digital Signal Processing* and *Digital Design*, demonstrating programming and experimental techniques, and guiding students though hands-on implementation of algorithms.
- Designed and supervised final projects and senior-design, and evaluated implementation quality and reports.

Shanghai Jiao Tong University, Shanghai, China *2015 - 2017*
Research Assistant

- Collected a novel dataset for traffic anomaly monitoring and built an integrated platform to do data annotation, algorithm evaluation and performance display.
- Designed a complete system with improved human detection and tracking, pose estimation and action recognition functions.
- Proposed an improved indoor localization algorithm using multiple sensors and applied for a patent.

EDUCATION

Stony Brook University (SBU), Stony Brook, New York, United States — *Aug. 2021 - May. 2026 (Expected)*
Ph.D. in **Electrical Engineering** — GPA: **3.90** / 4.0
Stony Brook University (SBU), Stony Brook, New York, United States — *Aug. 2017 - May. 2021*
M.S. in **Electrical Engineering** — GPA: **3.89** / 4.0
Shanghai Jiao Tong University (SJTU), Shanghai, China — *Sept. 2013 - Jun. 2017*
B.S. in **Computer Science & Technology** (**IEEE Honor Class**) — GPA: **3.52** / 4.3

SELECTED PUBLICATIONS

[1] **Yucheng Xing**, Xin Wang. "*HDG-ODE: A Hierarchical Continuous-Time Model for Human Pose Forecasting*". In the 19th International Conference on Computer Vision (**ICCV 2023**), Paris, France, October 2023.

[2] **Yucheng Xing**, Xin Wang. "*Puppet-CNN: Input-Adaptive Convolutional Neural Networks with Model Compression using Ordinary Differential Equation*". Under review (available on arXiv).

[3] **Yucheng Xing**, Xiaodong Liu, Xin Wang. "*Adaptively Controllable Diffusion Model for Efficient Conditional Image Generation*". Under review (available on arXiv).

[4] **Yucheng Xing**, Xin Wang. "*N-Tree Diffusion for Fire Probability Map Forecasting*". Under review.

[5] **Yucheng Xing**, Jacqueline Wu, Yingru Liu, Xuewen Yang, Xin Wang. "*AGGDN: A Continuous Stochastic Predictive Model for Monitoring Sporadic Time Series on Graphs*". In the 30th International Conference on Neural Information Processing (**ICONIP 2023**), Changsha, China, November 2023.

[6] **Yucheng Xing**, Jacqueline Wu, Yingru Liu, Xuewen Yang, Xin Wang. "*Evolved Differential Model for Sporadic Graph Time-Series Prediction*". In Intelligent and Converged Networks (**ICN**), vol. 5, no. 3, pp. 237-247, September 2024.

[7] **Yucheng Xing**, Xin Wang. "∞*-Net: An Unsupervised Model for Online Graph Time-Series Denoising*". In the 31st International Conference on Neural Information Processing (**ICONIP 2024**), Auckland, New Zealand, December 2024.

- Full publication list at Google Scholar and Personal Website – Publications.

SERVICES

[1] Reviewer for top conferences (*CVPR, ICCV, NeurIPS, ICML, ICLR, AAAI*) and top journals (*IEEE T-PAMI, IEEE T-ITS, JVCI*).

[2] Teaching assistant for courses including *Computer and Robot Vision*, *Digital Signal Processing* and *C++ Programming*.

- Details at Personal Website – Services.