

PEINING ZHANG

✉ peining4@gmail.com · ☎ (774)-519-2078 · in peining-zhang 🌐 homepage

🎓 EDUCATION

University of Connecticut, Connecticut, U.S. 2023 – Expected 2028

Ph.D. in Computer Science (CS)

Rutgers University, New Jersey, U.S. 2019 – 2021

M.S. in Computer Science (CS)

University of Science and Technology of China (USTC), Anhui, China 2015 – 2019

B.E. in Computer Science (CS)

👛 EXPERIENCE

Bayer, Whippany, New Jersey, U.S. Jun. 2026 – Aug. 2026

Ph.D. Statistics Intern Statistics and Data Science

- **Mixed-Type Tabular Generation:** Developed a diffusion-based generative modeling framework for clinical tabular data containing continuous, nominal, ordinal, and time-to-event variables. Designed ordinal-aware corruption mechanisms to preserve ranked relationships and evaluated the generated data for distributional fidelity and downstream clinical modeling.

Kuaishou Technology Co., Ltd., Beijing, China Jul. 2021 – May 2023

Machine Learning Engineer Search and E-commerce Marketing

- Developed a PyTorch-based purchase-intent model for an e-commerce marketing system, improving marketing ROI by 15%.
- Built audience-analysis dashboards and machine-learning pipelines that increased daily new-user acquisition by 50% without increasing customer acquisition cost.
- Collaborated with media partners to filter fraudulent traffic, increasing usable training data by 40% and improving landing-page conversion rate by 2.8%.
- Developed a Difference-in-Differences evaluation framework for more than 50 product experiments, including interventions that could not be evaluated through conventional A/B testing.

📖 RESEARCH EXPERIENCE

- **Developing Diffusion Models for Molecule Generation:** Designed and implemented a novel 3D molecular diffusion model by integrating dynamics into the architecture, enhancing conformational validity and accuracy through improved energy relaxation; accepted by *AAAI 2026 (Oral)*. 2024.07–2025.08
- **Reviewing Diffusion models for molecule generation:** Analyzed performance metrics of over 100 diffusion models for molecular generation, published on *Drug Discovery Today*. 2024.02–2024.12
- **Music Comments Generation with GANs:** Led a text generation research project that used GANs in a Seq2Seq manner to generate text guided by music features extracted by WaveNet. paper: arXiv:2209.01996 (USTC) 2018.02–2020.02
- **Negatively Correlated Search:** Contributed to research improving Negatively Correlated Search for real-parameter optimization, resulting in a published article. (USTC) 2017.05–2018.06

⚙️ PUBLICATIONS

- *VEDA: 3D Molecular Generation via Variance-Exploding Diffusion with Annealing*, **AAAI 2026 (Oral)**
- *Unraveling the Potential of Diffusion Models in Small Molecule Generation*, **Drug Discovery Today**, 2025
- *Negatively Correlated Search with Asymmetry for Real-Parameter Optimization Problems*, **Journal of Computer Research and Development**, 2019
- *Bridging Music and Text with Crowdsourced Music Comments: A Sequence-to-Sequence Framework for Thematic Music Comment Generation*, **arXiv Preprint**, 2021