# Yue Su

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## Education

**Xidian University** **XiAn, China**
*Undergraduate in School of Artificial Intelligence* *2022–2026*

- **GPA:** 3.70/4.00 **Score:** 85.00/100.00 **Ranking:** 6.95%(Specialized), 12.88%(All)
- **Core Courses:** Algorithm (99), Data Structure (98), Circuit (96), Pattern Recognition (94), Advanced Mathematics (94), Engineering (93), Program (93), Machine Learning (92), Optimization (90), Probability (90), Numerical Methods (90).

## Research Experience

- **Machine Vision and Intelligence Group** **Shanghai Jiao Tong University**
  *Research Assistant advised by Prof. Cewu Lu, Prof. Lixin Yang* *July 2024 - Now*
  Pursuing research in robot learning with particular attention to perception and inference about the real world.
- **Key Laboratory of Cooperative Intelligent Systems** **Xidian University**
  *Research Assistant advised by Prof. Maoguo Gong, Prof. Hao Li* *September 2023 - July 2024*
  Contributed to research on adversarial attacks against computer vision systems.

## Publications

- **Dense Policy: Bidirectional Autoregressive Learning of Actions**
  *In submission to ICCV 2025*
  **Yue Su,**[*] Xinyu Zhan[*], Hongjie Fang, Han Xue, Haoshu Fang, Yong-Lu Li, Cewu Lu, Lixin Yang[†]
  Propose Dense Policy, A bidirectional robotic autoregressive policy, which infers trajectories by gradually expanding actions from sparse keyframes, has demonstrated capabilities exceeding diffusion-based policies.
  [arXiv] [code] [website]
- **Motion Before Action: Diffusing Object Motion as Manipulation Condition**
  *In submission to IEEE RA-L*
  **Yue Su,**[*] Xinyu Zhan[*], Hongjie Fang, Yong-Lu Li, Cewu Lu, Lixin Yang[†]
  Propose MBA, a novel module that employs two cascaded diffusion processes for robot action generation under object motion guidance. Designed as a plug-and-play component, MBA can be flexibly integrated into existing robotic manipulation policies with diffusion action heads.
  [arXiv] [code] [website]
- **Generative Adversarial Patches for Physical Attacks on Cross-Modal Pedestrian Re-Identification**
  **Yue Su,** Hao Li[†], Maoguo Gong[†]
  A generative adversarial attack on VI-ReID models perturbs modality-invariant features, creating patches that expose sota vulnerabilities and highlight the need for enhanced feature extraction.
  [arXiv]
- **AdvDisplay: Adversarial Display Assembled by Thermoelectric Cooler for Fooling Thermal Infrared Detectors**
  *Accepted in AAAI 2025*
  Hao Li[†], Fanggao Wan, **Yue Su,** Yue Wu, Mingyang Zhang, Maoguo Gong[†]
  Historically, infrared adversarial attacks were single-use and unflexible. Using TEC, we implemented attacks adaptable to various scenarios, causing pedestrian detection models to misjudge.
  [AAAI-2025]

## Projects

- **MetaPalace: Let you in a meta world of The Palace Museum**
  We've done what the Old Palace official website couldn't: offering 3D artifact views with single-view reconstruction and an interactive LLM-powered tour guider using RAG technology.
  [website] [front-end code] [back-end code]
- **U-pre: U-Net is an excellent learner for time series forecasting**

Time series forecasting is suited for U-Net's architecture due to its consistent input-output distributions and strong mathematical alignment. Combining U-Net with Bert-Encoder improved performance by incorporating both local and global attention.
[code] [report-cn]

- **M-pre: Mamba for time series forecasting**
  Tried Mamba for time series forecasting based on feature-conditioned tokens.
  [code] [report-cn]
- **UniGen: Unified understanding and generation based on Flicker 8k dataset**
  A light-weight model for joint learning of language and image based on tiny captioned image dataset. UniGen is equipped with the abilities of image genration and language description in one model.
  [code]
- **AgentCrossTalk: Perform a Crosstalk between two LLM agents**
  This project uses the Google Gemini to create a simple chatbot application simulating two crosstalk performers performing based on user-provided topics.
  [code] [website]
- **FGSM3D: Is the point cloud gradient perturbation attack feasible?**
  We tried to extend FGSM to the 3D field and achieved significant success within a certain gradient range, but the sampling method of 3D models tells us that things seem to be not that simple...
  [code] [report-cn]
- **AcoFlow: Heuristic Search for Maximum Flow Problem**
  The problem of finding the maximum flow lies in how to design better heuristic information to find the augmenting path. We boldly challenge this problem through the ant colony algorithm.
  [code] [report-cn]

## Awards

- **First Prize, Provincial Level, 2023 China Mathematical Contest in Modeling**
- **First Prize, Provincial Level, 2024 China Mathematical Contest in Modeling**
- **Second Prize, Northwestern, 2024 China Computer Design Contest**

## Community Experience

- **Head of the Research Department of Microsoft Club, Xidian University.**