Junxian Chen

Email: cjxdsg@hnu.edu.cn
Github: https://github.com/ChenJunX1an
Mobile: +86-13974600352
Add.: National Supercomputing Center, Changsha City, Hunan Province (410000)

Education

- **Hunan University** — Changsha, Hunan
  Master of Computer technology; GPA: 3.55/4.0; Supervisor: Ruihui Li — *Sep. 2021 - present*
- **Hunan University** — Changsha, Hunan
  Bachelor of Computer science; GPA: 3.3/4.0 — *Sep. 2017 - June 2021*

Publications

- **NeurIPS'24(Submitted)**: Xiaojun Chen, **Junxian Chen**, Ying Liu, Ruihui Li. SGNet: A Point Cloud Completion Network via Structure Growing.
- **AAAI'24(Accepted)**: Xiaolin He, Ying Liu, **Junxian Chen**, Yiming Han, Ruihui Li. ISDNet: High-fidelity Single-view Reconstruction of Indoor Scenes Via Instance Separation and Deformation.
- **ACM MM'23(Oral)**: **Junxian Chen**, Ying Liu, Yiqi Liang, Dandan Long, Xiaolin He and Ruihui Li. SD-Net: Spatially-Disentangled Point Cloud Completion Network.
- **IoTJ'22**: Cheng Zhang, Yang Xu, Haroon Elahi, Deyu Zhang, Yunlin Tan, **Junxian Chen** and Yaoxue Zhang. A Blockchain-Based Model Migration Approach for Secure and Sustainable Federated Learning in IoT Systems.

Academic Experience

- **Point Cloud Completion** — Hunan University
  Postgraduate Student. Supervised by Prof. Ruihui Li — *March 2022 - present*
  - **SD-Net: Spatially-Disentangled Point Cloud Completion Network**:
    - Proposed a novel point cloud completion framework consisting of two sub-networks, Dense Refiner and Missing Generator, which refine partial point clouds and infer missing point clouds respectively.
    - Designed the Non-Symmetrical Cross Transformer to capture geometric relationships across distance.
    - Introduced a new data preprocessing algorithm to separate point clouds of missing regions and refined regions.
  - **SGNet: A Point Cloud Completion Network via Structure Growing**:
    - It is observed from the experiments above, refined point clouds could provide a more detailed and reliable geometry structure which facilitates better prediction of missing structures.
    - Designed data pre-processing method that provided effective supervision for each step.
    - Participated in the experiments and writing of this paper as co-first author.
- **3D Shape Reconstruction** — Hunan University
  Postgraduate Student. Supervised by Prof. Ruihui Li — *March 2022 - present*
  - **High-fidelity Single-view Reconstruction of Indoor Scenes Via Instance Separation and Deformation**:
    - Proposed an Instance Separation module that could effectively predict the occluded or incomplete parts of the reconstructed object.
    - Conducted the Instance Deformation module to produce refined 3D models by learning instance templates.
    - Participated in the writing and rebuttal of this paper.
- **Federated Learning, Block Chain** — Hunan University
  Postgraduate Student. Supervised by Prof. Yang Xu and Prof. Yaoxue Zhang — *May 2021 - March 2022*
  - **A Blockchain-based Model Migration Approach for Secure and Sustainable Federated Learning**:
    - Designed a clustering-based algorithm for identifying malicious devices.
    - Participated in the writing of this paper.
- **Information Security, Block Chain** — Hunan University
  Graduation Project. Supervised by Prof. Yang Xu — *Sep.2020 - May 2021*
  - **A blockchain-based information leakage traceability system**:
    - Deployed a decentralized information leakage traceability system, which avoided the additional overhead and trust issues caused by the introduction of trusted third parties in traditional scenarios.
    - Homomorphic encryption is used to ensure data security during distribution.
    - Introduced the Least Significant Bit algorithm to achieve concealment of watermark embedding.

Honors and Awards

- Outstanding Graduate - 2024
- First-class Academic Scholarship - 2023
- Outstanding Graduate Student - 2023
- First Prize for Outstanding Graduation Project - 2021 **(Top 1%)**
- Third Prize in the Electronic System Design Innovation Competition at Hunan University - 2019
- Second Prize in the 4th Internet+ Innovation and Entrepreneurship Competition at Hunan University - 2018

Other Skills

- **English**: IELTs (6.0, with 7.5 in reading, 6.5 in writing).
- **Math**: Scored 133/150 in Mathematics for postgraduate entrance examination. (The average score is about:70)
- **Swimming**: Represented Hunan University in the 12th University Games in Hunan Province.