Zeyuan Liu

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Education

Harbin Institute of Technology (HIT) Aug. 2021 – Present
Bachelor of Architecture in Architecture (Minor in Computer Science) *Harbin, China*
GPA: 85.51/100
Relevant Courses:
Mathematics: Calculus, Linear Algebra, Probability Theory and Mathematical Statistics, Discrete Mathematic
Computer Science: Pattern Recognition and Machine Learning, Data Structures and Algorithm, Operating System, Computer Organization, Software Engineering, Web Technology, Computer Vision, Natural Language Processing
Programming: C++ Programming, Python Programming

Research

Maniflat3D: Learning 3D Geometry through Planar Representations July 2025 – Present
Supervisor: Prof. Fangxin Wang *Chinese University of Hong Kong*

- Deployed 3D gaussian splatting framework for point-based deep learning.
- Reproduced and benchmarked 3D baselines including PointNet, PointMLP, PointConv on ShapeSplat dataset.
- Demonstrated comparable accuracy of Maniflat3D to native 3D baselines with 90% parameter reduction and 21× compression ratio.
- Paper submitted to the AAAI 2026 Conference by Aug. 2025.

Power of Generative AI: Use Cases Across a Variety of Industries Jan. 2025 – Feb. 2025
Supervisor: Prof. Majed Al-Ghandour *North Carolina State University*

- Conducted bibliographic retrieval on Generative AI for Autonomous Driving.
- Utilized Llama3-8B pretrained Large Language Model to analyze traffic data and optimize route planning.
- Completed a research poster that presents the in- depth research on GenAI Autonomous Vehicle Route Planning.

Projects

Deep Learning-based Facial Attribute Prediction Oct. 2024
Supervisor: Prof. Jiafeng Liu *Pattern Recognition Center, HIT*

- Developed a Convolutional Neural Network including Conv2D, MaxPooling, and Dense layers.
- Utilized RMSprop optimizer and loss functions to enhance convergence and improve model accuracy to 88.23%.
- Analyzed model performance using Matplotlib to assess prediction deviations and classification accuracy.

iHarmony - Mobile Wallpapers Application Development Aug. 2024
Supervisor: Prof. Yingxin Tian *College of Software, HIT*

- Designed UI using the ArkUI framework to implement page navigation, user interaction and error handling.
- Implemented data persistence using the ArkTS preferences module to save and display specific images.
- Implemented data retrieval with HTTP requests to fetch data from open source graphic API.

Data Processing Based on Distributed System July 2024
Supervisor: Prof. Jie Li *Bioinformatics Institute, HIT*

- Deployed Hadoop on a distributed cluster for processing and analyzing data.
- Utilized MapReduce pattern to finish classification statistics tasks with 100,000+ medical records on the self developed distributed data processing system.

Achievements

Merit student of Harbin Institute of Technology 2023 – 2024
Academic achievements track *Undergraduate College, HIT*

Merit student leader of Harbin Institute of Technology 2022 – 2023
Public leadership track *Undergraduate College, HIT*

Technical Skills

Languages: C/C++, Python, Java, JavaScript, TypeScript, SQL, HTML, CSS, Markdown, LaTeX
Developer Tools: Anaconda, Git, VS Code, Visual Studio, PyCharm, IDEA, Rhino, Grasshopper, Midjourney, Vue
Libraries: PyTorch, OpenCV, scikit-image, Pillow, NumPy, Matplotlib, scikit-learn, TensorFlow