Suzeyu Chen

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Education

- **Beijing Jiaotong University** GPA: 3.4/4
  Bachelor of Science - Management Information System; **(Ranking top 30%)** *Sep 2020 – June 2024*
- **The Hong Kong University of Science and Technology (Guangzhou)** GPA: 3.8/4
  Master of Science - Technology and Policy; **(ML & AI Courses with A+)** *Sep 2024 – Present*

Research Experience

- **Fast and Memory-Efficient 3D Semantic Occupancy Prediction**
  Research Project Leader (Intended for Submission) *Sep 2024 - Present*
  - **Designed 3D Sparse Latent Diffuser**: Reducing FLOPs by **74.9%** through low-rank decomposition of convolutional kernels while maintaining geometric and semantic perception performance.
  - **Optimized 3D Encoder With Channel-to-Height Transform**: mapping BEV features to the 3D space. Achieved a 0.3 increase in mIoU on the nuScenes-Occupancy benchmark (SOTA + **1.5%**), **21%** reduction in GPU memory consumption, and **27%** increase in inference speed compared to the 3D convolution.
  - **Created Lightweight 3D Transformer Segmentation Head**: Designed and implemented a lightweight fusion-path Transformer encoder for the 3D semantic segmentation head, integrating local window attention and global semantic modeling to address the problem of missed detection of small objects in 3D space. Improved the detection accuracy of pedestrians/traffic signs by **11.6%** and further increased the mIoU 1.1 (SOTA + **5.6%**).

Professional Experience

- **Stock Price Prediction and Quantitative Strategy Support** Intern
  China Everbright Securities, Quantitative Research Group *Aug 2022 - Sep 2022*
  - **Project Achievements**: Optimized the Transformer - based stock price prediction system, cutting RMSE by **2%** (from 1.04% to 1.02%). The code was modularly packaged and added to the team's technical doc.
  - **Project Background**: Aimed to meet the cooperation department's demand for more precise stock price prediction and optimize downstream trading strategies with limited stock data.
  - **Technical Implementation**: Constructed a pure encoder Transformer model, using dynamic batch training to boost efficiency. Enabled the expansion of custom features like MACD support to enhance model adaptability.

Honors and Awards

- First-class Honor, awarded by Beijing Jiaotong University - December, 2022
- Dean's List with Distinction, awarded by Rochester Institute of Technology - December, 2023

Miscellaneous

- **Programming Languages**: Python, SQL, LaTeX
- **Tools**: Pytorch, Linux(Ubuntu), Scikit-learn, Markdown
- **Blog:** Documented solutions to ML problems **(77.5k views + 0.9k stars)**. (Clickable: My CSDN Column)