Xiang Zhang

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Education

University of Electronic Science and Technology of China, Chengdu, China 2022 – Present

Master of Engineering in Control Science and Engineering, expected July 2025

University of Electronic Science and Technology of China, Chengdu, China 2018 – 2022

Bachelor of Engineering in Measurement and Control Technology and Instrument

Publication

Sparse-view CT Reconstruction via Attention-based Parallel Dual-domain Fusion Aug. 2024

Code, Writing SUBMITTED

The study proposes a novel dual-domain reconstruction network for Sparse-View Computed Tomography (SVCT), utilizing two parallel branches for sinogram and image domains, combined with a global attention module to enhance CT image reconstruction. This dual-domain approach prevents error propagation between branches and leverages their complementary strengths. A lightweight CNN and Transformer-based module is introduced in the sinogram branch to recover missing projection views. The network achieves high performance in SVCT reconstruction, reducing noise while preserving details, and is validated on a Mayo Clinic benchmark dataset for reliability.

Experience

Force Feedback Immersive Remote Ultrasound Diagnosis Technology Nov. 2021 – Present

C++, Python, ROS, OpenCV, Eigen

The project aims to develop an image registration algorithm to align ultrasound images with stereo images and display them in VR glasses, utilizing a 6-axis force sensor and force feedback handle to achieve remote ultrasound diagnosis with force feedback in virtual reality.

Surgical Navigation and Teleoperation System Based on Stereo Vision Nov. 2022 – Present

C++, Python, ROS, OpenCV, Eigen

The project aims to design a surgical navigation and teleoperation system for robot-assisted spine surgery, realizing a high-precision positioning system; spin puncture path planning and navigation; teleoperation robot arm control.

Skills

- Programming Languages: C++, Python, LaTeX
- Platform: Linux, FreeRTOS
- Development: PyTorch, ROS, OpenCV, Docker, CMake, Git

Honors and Awards

- *2nd Prize*, China University Robot Competition Oct. 2020
- *2nd Prize*, China University Engineering Practice and Innovation Ability Competition Sept. 2021
- *2nd Prize*, China Postgraduate Mathematical Contest in Modeling Oct. 2022

Miscellaneous

- GitHub: https://github.com/innns
- Languages: English - TOEFL 96