PENGYU LI

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EDUCATION

Xinjiang University (211 project)   Sep 2020 - Jun 2024
Bachelor of Computer Science
GPA : 88.45/100, Rank : 16/144 (Top 10%)   Urumqi, China
Relevant courses : Data Structure, Database Theory, Computer Network, Computer Organization, Operating Systems, Linux, Compiler Principle

RESEARCH EXPERIENCE

Research and Application of Speech Enhancement Based on Diffusion Model | Bachelor's dissertation
Prof. HUANG Hao | Silk Road Multilingual Cognitive Computing Joint International Research Nov 2023 - May 2024
Laboratory

- Implemented a diffusion model-based framework for processing complex spectrograms.
- Trained diffusion models to predict and remove noise from speech signals.
- Achieved best results on VoiceBank+DEMAND dataset than other baseline models, with significant improvements in PESQ (2.47) and SI-SDR (15.8 dB), demonstrating robust speech enhancement under unknown noise types.

Physics-Informed Neural Network Framework for Flow Field Reconstruction from Passive Scalar Transport under Uncertain Parameters   Sep 2022 - jun 2023
Prof. Xinlong Feng&Hui Xu | Artificial Intelligence Innovation Lab

- Developed an adaptive gradient-enhanced Physics-Informed Neural Network, with dynamic loss weighting to optimize multi-objective constraints .
- Achieved a 40% reduction in convergence iterations while maintaining flow field reconstruction error below 8%.

Exosome Prediction System for Lung Cancer Based on Machine Learning   Mar 2022 - Oct 2023
Funding : National Innovative Training Program for College Students

- Processed exoRBase data via SMOTE oversampling and UMAP visualization, resolving class imbalance and revealing distinct clusters.
- Trained SVMXGBoost and CatBoost classifiers achieving AUC=0.95, identifying the four most influential predictive features of SCLC.

AWARDS

- Gold Medal, The 2023 ICPC China Silk Road National Invitational Programming Contest   2023
- Silver Medal, 2022 ACM-ICPC Xinjiang Provincial Collegiate Programming Contest   2022
- Second Prize, Blue Bridge Cup Provincial Contest (Programming Category)   2022
- Third Prize, Chinese Mathematics Competition (National)   2022
- Provincial Merit Award, Challenge Cup Entrepreneurship Competition   2022
- Gold Prize (Campus Level), China College Students "Internet Plus"
  Innovation & Entrepreneurship Competition   2022

SKILLS

Programming	Python, MATLAB, Java, C++, Linux
Python Packages	Pytorch, Tensorflow, Numpy, sklearn, Keras
Languages	English (IELTS:6.5), Chinese (Native)