王艺轩

电话：18058342068 | 邮箱：yixuanwang@m.scnu.edu.cn | 现居城市：广东省佛山市南海区
年龄：24岁 | 性别：男

Education

华南师范大学	2019年09月 - 2023年06月

人工智能 本科 计算机学院

GPA：3.5/5.0

Research

- 1. **Research Issue:** In single-cell RNA sequencing (scRNA-seq) studies, there are issues of limited sample sizes and poor quality. scRNA-seq technology, which analyzes gene expression in individual cells, reveals complex biological information but is limited by data scarcity, especially for specific cell types.

  Solution: ESCFD incorporates a pre-guidance mechanism to enhance the quality of specific cellular subpopulation synthesis and a post-guidance mechanism to accelerate the sampling process. The method aims to address limitations in existing approaches that often produce low-quality samples or fail to generate sufficient specific cell subpopulations. Experimental results across three benchmark datasets (PBMC, Tabula Muris, and Brain Small) demonstrate that ESCFD outperforms previous methods in terms of cell classification accuracy, cell distribution similarity, and sampling speed, achieving a 3.73× speed improvement over scDiffusion.

  Supervisor: Shuangyin Li

  Authors: Shuangyin Li, JiHua Yang, Yixuan Wang, Shimin Di, Lei Chen

  As the corresponding author
  Accepted by KDD 2025

- 2. **Research Issue:** Diffusion models are effective generative tools, but a subset, like DDIMs, faces training asymmetry, sampling only from a subset of steps, which may ignore crucial information and affect sample quality.

  Solution: We developed S2-DMs (Sample-Skipping Diffusion Models), incorporating a skipping loss function to integrate missed information during selective sampling. This method significantly enhances sample quality, is easy to implement, minimally alters code, and is compatible with various sampling algorithms.

  Supervisor: Shuangyin Li

  Authors: Yixuan Wang, Shuangyin Li

Work Experience

华为技术有限公司	2024年07月 - 至今

算法开发工程师

广州南方测绘科技股份有限公司	2023年07月 - 2023年12月

图像算法开发工程师

华为技术有限公司	2022年06月 - 2022年10月

算法实习生

Awards

- 1. 华为昇腾AI创新大赛金奖；

  2. 泰迪杯数据挖掘全国三等奖；

  3. 获得校三等奖学金。