Yiming Shi

Specializing in Parameter-Efficient Fine-Tuning & Diffusion Models

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GitHub | Academic Page | Blog

November 18, 2024

Outline

Education

Education

University of Electronic Science and Technology of China

Program: Internet+ Dual Degree Program

Major: Computer Science & Finance

Period: 2021 - Present

Research Experience

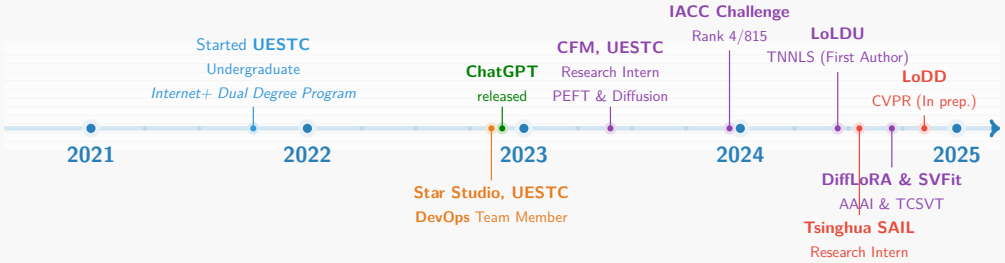


Figure 1: My Research Timeline (2021-Now). Highlighting key nodes in Education, Engineering, Work in CFM, and Current Work.

Internship | Center for Future Media

Overview

Position: Research Intern (May 2023 - July 2024)

Advisors: Prof. Yang Yang and Prof. Jiwei Wei

Focus Areas: Parameter-Efficient Fine-Tuning (PEFT) & Diffusion Models

Achievements

Competition: 4th Place (out of 815) in International Algorithm and Case Competition (IACC) Challenge

Publications:

First-author paper under review at IEEE TNNLS

Co-authored papers submitted to AAAI and IEEE TCSVT

Internship | Tsinghua SAIL Group

Overview

Position: Research Intern (July 2024 - Present)

Advisors: Prof. Jun Zhu and Dr. Zehua Chen

Focus Area: Dataset Distillation & Efficient AI

Current Work

Working with Dr. Duo Su on Dataset Distillation (DD)

Preparing for ICML 2025

Publications

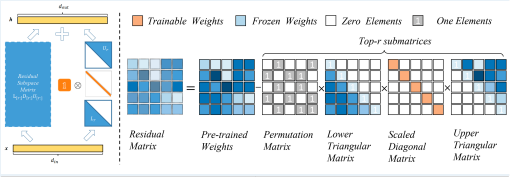
LoLDU: Low-Rank Adaptation via Lower-Diag-Upper Decomposition

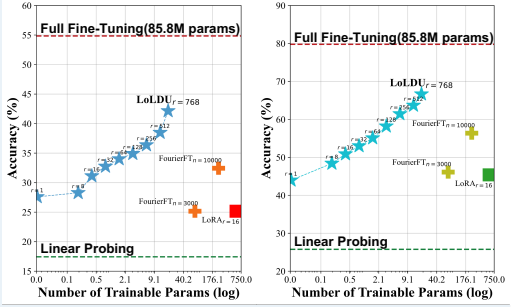
Yiming Shi, *Jiwei Wei, Yujia Wu, Ran Ran, Chengwei Sun, Shiyuan He, Yang Yang*

TL;DR

*Novel PEFT method leveraging LDU matrix decomposition, achieving **2600x** parameter reduction while maintaining performance. Faster saturation and comparable results across various tasks among NLP and CV.*

Paper Code





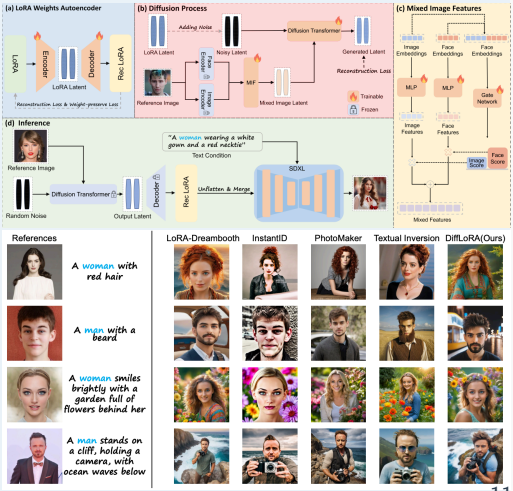
DiffLoRA: Generating Personalized Low-Rank Adaptation Weights with Diffusion

*Yujia Wu, **Yiming Shi**, Jiwei Wei, Chengwei Sun, Yuyang Zhou, Yang Yang, Heng Tao Shen*

TL;DR

DiffLoRA leverages diffusion models to predict personalized low-rank adaptation weights, achieving efficient and identity-fidelity text-to-image generation without further training, by integrating these weights into the model during inference.

Paper Code

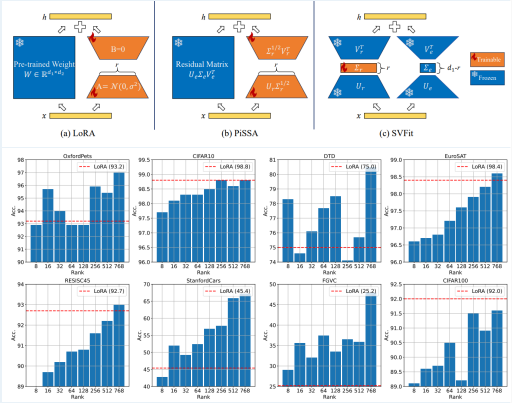


SVFit: Parameter-Efficient Fine-Tuning of Large Pre-Trained Models Using Singular Values

*Chengwei Sun, Jiwei Wei, Yujia Wu, **Yiming Shi**, Shiyuan He, Zeyu Ma, Ning Xie, Yang Yang*

TL;DR

*Novel PEFT method utilizing SVD for low-rank initialization, achieving **16x** parameter reduction compared to LoRA while maintaining superior performance across NLP and CV tasks through optimal singular value adaptation.*



Paper Code

Thank You!

Contact Information

Email

GitHub

Website

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