

Siwei Meng

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Education

University of Nevada, Reno

Reno, USA

PhD of Computer Science

Sep 2024 - Current

- **Courses:** Principal Computer Operating System, Independent Study: Machine Learning

Shenzhen University

Shenzhen, China

Master of New Generation of Electronic Information Technology

Sep 2021 - Jul 2024

- Average Score: 86.3, **GPA: 3.37**
- **Courses:** Machine Learning (87.8), Convex Optimization (87.2), Matrix Theory and Method (85.6), Data Analysis (82.4), Digital Signal Processing (82.7), Thesis Writing Guidance (91.7)

South China University of Technology

Guangzhou, China

Bachelor of Information and Interaction Design

Sep 2017 - Jul 2021

- Postgraduate Recommendation, Average Score: 85.89, **GPA: 3.73**
- **Courses:** Software System Design and Development (90), Virtual Reality Technology (92), Human-Machine Engineering, Visual Communication Design (91), Information Interaction Design and Programming (86)

Research Interests

AIGC, 3D/4D generation, Computer vision, Face Generation and Synthesis, Facial expression analysis.

Publication

Meng, Siwei, and Wuzhen Shi. "Fusing Structure and Appearance Features in Facial Expression Recognition Transformer."

ICASSP 2024-2024 IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP). IEEE, 2024.

Research Experience

Fusing Structure and Appearance Features in Facial Expression Recognition Transformer

Shenzhen, China

- Investigated the mutual guidance between gradient-based facial structure features and texture features.
- Leveraged the vision cross-fusion transformer architecture to fuse structure and appearance features.
- Significantly improved the accuracy of facial expression recognition models to 92.36% on the RAF-DB dataset.

Apr 2023 - Jun 2023

Occlusion-aware Learning and Facial Action Units Prior for Facial Expression Recognition

Shenzhen, China

- Developed an image-level occlusion-aware network for facial occlusion perception.
- Designed the relation rule between facial action units and facial landmarks for specific expression feature extraction.
- Conducted graph neural network for local facial features fusion, utilizing the structural relationship between patches.

Oct 2022 - Mar 2023

Industry Experience

Parametrix.ai

Shenzhen, China

Interning AIGC Product

May 2023 - Aug 2023

- Conducted the development of real-time content generation for an AIGC web application, contributing to the interaction design and front-end development.
- Collaborated in anime expression-related Generative model training and Led the definition of anime expressions.
- **Skills:** Figma, Prototyping, CSS, React, Git, Python.

TCL Co.,Ltd

Shenzhen, China

Interning Graphic Semantic Algorithm

Jul 2022 - Dec 2022

- Assisted the group to develop a detection model that utilized YOLO v3 as a foundation to improve the accuracy of food detection in the Mobile net architecture.
- Led the development of an open-close eyes detection model for the evaluation of short-form social media videos, including the collection of a large-scale facial video dataset and extensive model testing experiments.
- **Skills:** TensorFlow, PyTorch, Python, Crawl.

Undergraduate Experience

Emotion Monitoring and Relaxation Application Development for the Depression

Guangzhou, China

Undergraduate Thesis

Feb 2021 - May 2021

- Developed an Android-based mobile application. Used open-source facial expression recognition algorithm for real-time emotion monitoring and recording.
- Crawled the depression data from social media platforms such as Weibo and Tieba, analyzed and organized user pain points.
- **Skills:** Java, Python, Crawl, User Research.

Activities

1st TC2 Summer School on Deep Learning on Graphs

Hong Kong, China

The Hong Kong Polytechnic University

31th Aug 2023

- Attended the Summer School on Deep Learning on Graphs, gaining insights into Graph Neural Networks (GNNs) history, 3D vision analysis with GNNs, PyTorch Geometric, interpretable GNNs, and quantum information propagation in GNNs.
- Conducted hands-on experience in Python for deep learning on graphs.

Awards

2018	School Second Class Scholarship	South China University of Technology
2019	School Merit Student	South China University of Technology
2021	Special Freshman Scholarship	Shenzhen University
2022	School Second Class Scholarship	Shenzhen University
2022	Game Development College Competition Silver & Best Popularity Award	Tencent Games
2024 - 2025	Graduate Dean's Merit Scholar	University of Nevada, Reno

Skills and Languages

Programming Python with PyTorch (skilled), NumPy, OpenCV, MATLAB, C/C# (master), HTML/CSS, JavaScript.

Miscellaneous VS code (frequently), PyCharm (frequently), Linux, Unity, Git, Android Studio, Photoshop, Cinema 4D.

Soft Skills Academic Writing, Engaging Presentation, Problem-solving, Independent Thinking.

Languages Chinese, English