

XINYI (CINDY) ZHOU

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Education

University of Southern California

January 2023 – December 2024 (Expected)

Master of Science in Computer Science (General), GPA: 4.0/4.0

Los Angeles, CA

Southern University of Science and Technology

September 2018 – July 2022

Bachelor of Engineering in Computer Science and Technology, GPA: 3.75/4.0

Shenzhen, China

Work Experience

Machine Learning (NLP) Engineer Intern | UBTECH | Shenzhen, China

May 2023 – August 2023

- Collected over 50,000 high-quality ChatGPT-generated conversations centered around Welcoming and Guiding Dialogues, leveraging prompt engineering and Python scripts.
- Fine-tuned Vicuna chatbots (7B, 13B, and 33B) with DeepSpeed ZeRO stage3 parallelism and the LoRA technique on a V100 GPU cluster, obtaining a 29.74% user preference increase for tour guiding and scene reception contexts.
- Deployed a Chatbot web service using Gradio, Uvicorn, and FastAPI to enable user evaluations of fine-tuned models.

Research Assistant of Dr.Luo Tao | SUSTech | Shenzhen, China

August 2022 – December 2022

- Developed innovative MR/VR user interaction demos using Unity on HoloLens2 and Oculus Quest2 with UX designers.
- Created C# and Python scripts to collect and analyze user hand motion data for hyperparameter tuning.
- Analyzed semi-structured interview materials concerning the application of the IxDL language in the industry.

Front-End Developer Intern | Shenzhen Weijie Technology | Shenzhen, China

March 2022 – June 2022

- Developed the front-end for a WeChat mini application that groups Murder Mystery Games for iOS and Android platforms, utilizing Vue.js and the uni-app framework.
- Implemented customized features, including a sliding date selector and an Apple-style blurry image background.
- Collaborated with designers, back-end developers, and testers on UI design, API design, and code maintenance.

Research Assistant of Dr.Liu Jiang | SUSTech | Shenzhen, China

September 2019 – June 2022

- Developed a CNN-based network to address defocus blur in ophthalmic surgical microscope images by image fusion, outperforming other state-of-the-art models on SSIM and PSNR at that time by up to 36.10% and 28.19%.
- Collected a dataset of 3718 multi-focus microscope fundus images and obtained the ground-truth all-in-focus images by a traditional image fusion algorithm.
- Secured funding for the National College Students' Innovative Entrepreneurial Training Plan Program as the principal investigator (Grant No. 202114325010).

Publication

Xinyi Zhou, Louying Hao, Qiushi Nie, Yingquan Zhou, Lihui Wang, Yan Hu*, Jiang Liu, "A Novel Multi-focus Fusion Network for Retinal Microsurgery," in *IEEE International Symposium on Biomedical Imaging (ISBI)*, 2022, doi: 10.1109/ISBI52829.2022.9761531

Projects

Color Correction WeChat Mini Program | Developer, Project Manager

February 2021 – May 2021

- Developed a photography application designed to showcase the challenges color-blind individuals face in object recognition through color space conversion.
- Implemented the front-end and developed a JavaScript algorithm for color space conversion that simulated the visual experience of individuals with color blindness.

Epidemiological Analysis of COVID-19 cases in Korea | Data Analyst

April 2020 – June 2020

- Visualized with Python the distribution of patients, spread of disease geographically to understand the development of the pandemic.
- Utilized KMeans clustering on population mobility data to categorize the epidemiological risks of Korean cities.
- Predicted patients' recovery time and epidemic trend with regression analysis and the SIR Model for Spread of Disease.

Honors

Outstanding Graduate Student Award

June 2022

Southern University of Science and Technology

The First Class (Top 5%) of Merit Student Scholarship

November 2021

Southern University of Science and Technology

Technical Skills

Languages: Python, C#, JavaScript, Java, HTML/CSS, C++, SQL

Technologies/Frameworks: Hugging Face Transformers, Vue.js, React, UniApp, Unity3D, PyTorch, DeepSpeed, Git, Prompt Engineering, Gradio, FastAPI, Spring Boot