XINYI (CINDY) ZHOU

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Earliest Start Date: May 13, 2024 - Latest End Date: August 23, 2024
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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*

TECHNICAL SKILLS

Languages: Python, JavaScript, HTML/CSS, Java, C#, C++, SQL
Machine Learning : Hugging Face Transformers, Unix/Linux, PyTorch, DeepSpeed, Large Language Models
Software Engineering Git, Gradio, FastAPI, Vue.js, React, UniApp, Unity3D, Spring Boot, MRTK, Prompt Engineering

WORK EXPERIENCE

Machine Learning (NLP) Engineer Intern | *UBTECH* | *Shenzhen, China* May 2023 – August 2023
- Fine-tuned LLM Vicuna chatbots (7B, 13B, and 33B) with **DeepSpeed ZeRO** and **LoRA** on a V100 GPU cluster for more engaging human-robot interactions in reception and tour guiding, obtaining an increase of 29.74% in user preference and 22 in Elo rating.
- Collected over 50,000 high-quality ChatGPT-generated receptioning and guiding dialogues through **Python API**, cleaned and transformed them into JSON files for storage using **Python**.
- Deployed a Chatbot implemented by **Gradio**, **Uvicorn**, and **FastAPI** on a cloud service for users to evaluate fine-tuned models.

Research Assistant of Dr.Luo Tao | *SUSTech* | *Shenzhen, China* August 2022 – December 2022
- Created MR/VR user interaction demos of smarter user interaction designs in 3D space with **Unity** on MR/VR devices.
- Developed **C#** and **Python** scripts to automatically collect and analyze user hand motion data for user experience testing.
- Analyzed semi-structured interview materials about the industry's application of the IxDL language, extracting actionable insights for promotion within technical teams.

Front-End Developer Intern | *Shenzhen Weijie Technology* | *Shenzhen, China* March 2022 – June 2022
- Implemented the front-end for a WeChat Murder Mystery Game Grouping Mini Program on iOS and Android platforms with **Vue.js**, **JavaScript**, **HTML/CSS** and the **uni-app** framework.
- Collaborated with designers, back-end developers, and testers on UI design, API design, and code reviews.

Research Assistant of Dr.Liu Jiang | *SUSTech* | *Shenzhen, China* September 2019 – June 2022
- Developed a **CNN** network with **PyTorch** to address defocus blur in ophthalmic surgical microscope images via image fusion, outperforming other state-of-the-art models by up to 36.10% in SSIM and 28.19% in PSNR.
- Collected a dataset of 3718 multi-focus microscope fundus images and derived ground-truth all-in-focus images by a traditional image fusion algorithm.
- Successfully secured funding as the principal investigator for the National College Students' Innovative Entrepreneurial Training Plan Program (Grant No. 202114325010) and published research results on ISBI 2022 as the first author.

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

Student Academic-Health-Environment Correlation Analysis | *Data Analyst* **May 2021 – June 2021**
- Conducted a comprehensive literature review to analyze existing research on the effects of personal health and environmental factors on students' academic performance.
- Employed **scikit-learn** to develop a **linear regression** model, utilizing data from the China Education Panel Survey to establish connections between students' BMI index, nearsightedness, and their mid-term average scores.

Epidemiological Analysis of COVID-19 cases in Korea | *Data Analyst* **April 2020 – June 2020**
- Visualized the distribution of patients and spread of disease geographically to understand the pandemic trend by **Python**.
- 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