**Xuanchao PENG**

+86-13648833857 | [xpeng](mailto:xc1217@mail.ustc.edu.cn)906@connect.hkust-gz.edu.cn | Jiari Chengshi, Wuhua District, Kunming, Yunnan, China

**Educational Background**

**University of Science and Technology of China,** Hefei, China **08/2019-08/2023**

*Bachelor of Science in Computer Science and Technology*

* GPA: 80.74/100
* Core Modules
* Data Structures, Computer Organization, Operating System, Computer Networks, Computer Architecture
* Algebraic Structure, Graph Theory, Mathematical Logic, Computational Methods B, An Intro to Database System
* Scholarships & Awards
* Bronze Scholarship for Outstanding Students Granted in 01/2022
* Award for Excellent League Member Granted in 05/2020
* Silver Scholarship for Outstanding Students Granted in 12/2019
* Skills

**Thesis Research Project**

**fMRI Based Major Depressive Disorder (MDD) Research via Deep Learning**  **10/2023-12/2023**

* Conducted extensive research on MDD using fMRI datasets, focusing on brain functionality
* Modeled brain regions of interest (ROI) using Graph Convolutional Networks (GCN) to assist in the diagnosis of MDD by identifying physiological changes in patients’ brain areas and visualizing the results
* Developed and tested a diagnostic framework to identify depression-related brain regions

**Competitions**

**International Genetically Engineered Machine Competition**  **10/2021-12/2021**

* Focused on synthetic biology and genetic engineering and conducted public education on machine learning model
* Improved parts of the AlphaFold2 model for more accurate protein sequence prediction
* Contributed to the team’s success, winning a Silver Medal at the national level in 2021

**AI Development for Competitive Gaming - Tencent AI Challenge 10/2021-12/2021**

* Developed AI models using supervised learning techniques to achieve human-level performance in multiplayer online battle arena (MOBA) games, and implemented multi-agent systems to facilitate strategic AI interactions
* Conducted research on competitive reinforcement learning, focusing on AI behaviors in game scenarios

**Course Projects**

**Web Experiment Project - Knowledge-Aware Recommendation System for Douban Movies**  **10/2022-12/2022**

* Crawled and processed data from Douban Movie and Book webpages, generating word embeddings by using wordvec2 and removing tokenization and stop words
* Developed a Boolean retrieval system and an inverted index for movies and books, and created a search engine and a personalized recommendation system using SVD, collaborative filtering, and graph compression algorithms

**Compiler Principles Project - LightIR C Compiler 10/2022-12/2022**

* Generated intermediate code based on abstract syntax tree, implemented constant propagation, loop invariant code motion, active variable analysis and other passes, and generated assembly code from intermediate code

**Operating Systems Project - Linux Kernel Module and Page Table Analysis 10/2022-12/2022**

* Utilized procfs and sysfs to traverse vma for page table analysis
* Implemented page hotness and coldness detection algorithms and developed a simple Linux kernel module

**AI in Geoscience 10/2022-12/2022**

* Performed multi-classification tasks on over 1000 rock images using attention mechanism

**Advancement in Smart Home Cleaning Technologies in the 4.0 Era 10/2022-12/2022**

* Developed intelligent navigation systems and precise point cleaning techniques to clean targeted area

**Volunteer Experiences**

* Volunteered at the Chinese Academy of Sciences Science and Technology Week in 2023
* Served as the Class Safety Officer from 2020 to 2023, participating in AED emergency training, receiving training at the fire brigade, and assisting in organizing safety lectures for peers

**Work Experiences**

* Worked at Huawei as a CV engineer from 3/2024 to 8/2024. Built SecuritySDK framework to do the inference of different models to solve the problem of security check.