Peiyu Chen

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Education

- **Shanghai Jiao Tong University** — Shanghai, China
  Bachelor of Science in Computer Science; GPA: 3.54/4.3 — *Sept. 2018 – June 2022*

  Relevant Coursework: Artificial Intelligence, Computer Graphics, Digital Image Processing, Computer Network, Operating System, Computer Architecture and Organization, Algorithm and Complexity, Data Structure, Introduction to Data Science, MATLAB Fundamental

  Students Comprehensive Assessment: Rank 48 in 155 in 2019-2020, Rank 14 in 155 in 2020-2021-1

Experience

- **Kafka 2 Kudu** — IDO Center @ SAIC(SIH)
  A Message Middleware to Handle Business Data, *Internship* — *Jan 2021 – Mar 2021*
  - Participated in developing a tool to connect various database(MySQL,SQLite and so on), cache data through message middleware, then output data to Kudu storage engine.
  - The message middleware can achieve the throughput of 10000 pieces of data in the database per second.
- **Knee Joint Image Analysis Based on Machine Learning** — Digital ART Lab @ SJTU
  A Vision-based Model to Identify Knee Joint Lesions, *Research* — *Sep 2019 – Mar 2019*
  - Adopted a variety of digital image processing methods for data augmentation to expand the dataset and improve the robustness of the model.
  - Built a neural network to identify whether meniscus lesions occur in the knee joint using X-ray plain film based on YOLOv3 target detection network, under the guidance of Dr. Sun Yan.

Selected Projects

- **Drug Molecular Toxicity Prediction**: Built Graph Convolutional Network(GCN) to predict the toxicity of drug molecules using SMILES expression. The best model can achieve an AUC of 0.88798 on the test set and got a score of 24/25 in course CS410:Artificial Intelligence.
- **LSTM-based AQI Prediction**: Developed an AQI prediction to ol by building LSTM network. A series of data visualization functions are also integrated for air quality data analysis.This project got rank 2/40 in course CS086:Introduction to Data Science.
- **Multiprocessing Ray Tracer**: Built a multi-processing Ray Tracer following the guidance of Ray Tracing in One Weekend on Github.
- **Hangzhou Metro Analyzer**: Built a metro data analysis software by using Qt and the data of Hangzhou Metro from Tianchi data contest.The software has the function of displaying traffic trend and recommending routes according to user needs.
- **VR Ice-Hockey Game**: Developed a Vitual Reality ice-hockey game with Shuo Yu using Unity and HTC VIVE suite. The feature of the game is that we realized the multi scene switching function and the scene roaming function which balances the sense of vertigo and motion. This project got a score of 40/40 in course CS337:Computer Graphics.

Skills

- **Language**: C/C++, Python, MATLAB, HTML, CSS, JS
- **Tools**: Pytorch, Numpy, Pandas, LaTeX, MarkDown, Unity, PR, PS, FL Studio

Awards

- **Undergraduate Excellent Scholarship (2019-2020)**: rank 48 in 155 candidates in the department
- **MCM Honorable Mentions (2020)**: Top 20% among the world