

# Xichen Pan

University Student @ CS. SJTU

Email : panxichen.pxc@gmail.com

Mobile : +86 186 535 00448

## EDUCATION

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- Shanghai Jiao Tong University** Shanghai, China  
B.Eng. in Computer Science; GPA: 3.74/4.3 *Sept. 2018 – June 2022 (Expected)*  
Relevant Coursework: Artificial Intelligence, Computer Graphics, Virtual Reality, Visualization, Digital Image Processing, Computer Network, Operating System, Computer Architecture and Organization, Algorithm and Complexity, Data Structure, Discrete Mathematics, Linear Algebra, Probability and Statistics, Calculus

## SKILLS

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- Programming:** C/C++, Python, JavaScript, HTML, CSS,  $\text{\LaTeX}$
- Packages:** Pytorch, NumPy, pandas, AllenNLP, PyQt5
- Knowledge:** NLP, Speech, Multimodal Deep Learning, Knowledge Graph

## EXPERIENCE

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- John Hopcroft Center for Computer Science at Shanghai Jiao Tong University** Shanghai, China  
**Research on AVSR, Research Intern** *Mar. 2021 – Present*
  - Focusing on research on AVSR under the guidance of Prof. Zhouhan Lin.
  - Trying to use pretrained models trained by contrast learning to promote AVSR.
- NSF Center for Big Learning at University of Florida** Gainesville, FL  
**Improving Question Answering using EncyclopediaNet, Summer Research Intern** *July 2020 – Sept. 2020*
  - Improved question answering on CommonsenseQA using EncyclopediaNet under the guidance of Prof. Dapeng Oliver Wu and Dr. Haotian Jiang.
  - Constructed EncyclopediaNet by using facts as nodes and connecting them with each other through if-then reasoning. Introduced multi-hop reasoning in EncyclopediaNet to improve question answering.
  - Extracted the 5W1H information of simple sentences to structure the nodes in EncyclopediaNet using the Bert-based Semantic Role Labeling model.
- Data Driven Software Technology Lab at Shanghai Jiao Tong University** Shanghai, China  
**An AI-based Approach to Check Coding Style, Research Intern** *July 2019 – Dec. 2019*
  - Developed a coding style automatic generator using Pylint and PyQt5 under the guidance of Prof. Yuting Chen.
  - The software can automatically adjust the 43 commonly used parameters and generate personalized Python coding style configuration file based on existing code in the codebase, and it performed well when tested with open source code in GitHub.

## SELECTED PROJECTS

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- Drug Molecular Toxicity Prediction:** Built GCN and GAT to solve the problem of Drug Molecular Toxicity Prediction in Artificial Intelligence course and got 23/25, the best performing model achieved an AUC score of 0.89 on the test set.
- MIPS-like Multi-Cycle Pipeline Processor:** Built a MIPS-like Multi-Cycle Pipeline Processor using Verilog in Experiments in Computer Organization course and got 100/100. The processor can execute 31 instructions and supports stall, forwarding, interrupt and exception.
- Xcone:** Developed an industrial software that can deal with both data extraction and DNC communication. It can extract the main information by analyzing G-code and communicate with most CNC machine tools. At present, the software has been updated in 5 versions and put into use in the workshops of several colleges and universities.
- Implementation Work:** Implemented LeNet, AlexNet, VGG, NiN, GoogLeNet, ResNet, DenseNet, GRU, LSTM and other networks by using Pytorch with reference to GitHub open source repositories.
- Time Series Forecasting:** Done some time series forecasting work by building LSTM network, including the prediction of Amazon e-commerce market trends in Problem C of MCM-2020, the prediction of air ticket prices from Beijing to Shanghai in Introduction to Data Science with Python course and got 92/100

## AWARDS

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- Academic Excellence Scholarship (2020):** rank 31 in 155 candidates in the department
- Academic Excellence Scholarship (2019):** rank 54 in 470 candidates in the school