HONGDUO XU

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EDUCATION

College of Information Technology, Hong Kong Polytechnic University, 2022-present
- **Degree**: Master of Engineering (Full Time)
- **Major:** Artificial Intelligence and Big Data Computing
- **Subjects:** Machine Learning, Deep Learning, Big Data Computing, Image Processing, Computer Vision, Investment, Extend Reality, Software Engineering.

College of Information Engineering, North China University of Technology, 2017-2021
- **Degree:** Bachelor of Engineering (Full Time)
- **Major:** Computer Science and Technology
- **GPA:** 3.55/4.00
- **Class Rank:** 3/35
- Hardware Course Design(94), WeChat applet development(100), Database Principle(91), Operating Systems(92), Programming in Assembly Language(95), Computer Architecture(96), Python Program Design and Practice(94)

PROJECT

ChatGPT with Automatic Answer Generation, 2023 Present
- Use the State-of-art technology to solve the current problem of the platform Ripple.
- Responsible for the code combination and overall design section.

Machine Learning for investment, 2023 Present
- The combination of machine learning techniques and investment.
- Responsible for designing and building machine learning models.

Image processing website creation, 2023 Present
- Team leader for the project.
- Responsible for building Computer vision algorithms.

"Escape", a VR Game, 2023 Present
- Responsible for setting the story for the game.
- Responsible for game logic setting.
- Use Unity to layout scene for lighting and blood rendering.

Research on SimCLR, 2022 Winter
- State-of-art technology of Artificial Intelligence.
- Exposure to state-of-art technology and theoretical knowledge.
- Make a report on how to distinguish dog and chair with the new technology and compare with other technology.

Team Leader, Relational Database Analysis, 2022 Winter
- Research about the history and the future of Relational Database.
- Research on the application of relational database.
- Compare the several relational database.
- Team Leader of 8 people, Schedule meetings and assign tasks.

Smart Milk Bottle, Android App Development, 2021 Summer
- A project which was developed by the Android and XML.
- Make a smart milk bottle which could heat by itself, and also several protection design for babies.
- The project with graduation thesis.

Covid-19 Registration System, 2020 Spring

- For school entry and exit registration.
- Developed by the Tencent WeChat Applet with WXSS, JS, and WXML.
- Obtain a software registration certificate.

Hardware Course Design, 2019 Summer

- Completed the requirements in the experiment instruction book with Verilog.
- Displayed different contents (word, picture, and symbol) on LED screens.
- Completed an overlapping and a non-overlapping binary sequence detector.
- Designed a 5-stage pipeline CPU, realized eleven instructions in the MIPS instruction set, and solved the data hazard problem.

Team Leader, Access System Based on Face Recognition, 2019-2020

- Participated in building a system that helps visitors view the description and upload their forms to get access with the applet; Security checks the info on a webpage; visitors get access to the college after face recognition.
- Arranged the assignment and made the final report as a leader.
- Developed WeChat Applet with JS, CSS, and HTML5 for user interface and Java for the server side.
- Reduced the number of XML nodes to improve rendering performance. Combined the calls of setData to improve rendering speed. Implemented HTTP caches to all images to increase loading speed.
- All network requests returned results within 1 second. SetData was called less than 20 times per second. First screen rendering time was 2500ms. Over 1,000 people had used it after publishment.

Paper

Hand acupoint detection based on improved HRNet, 2022 Summer

- **Published in:** 2022 International Joint Conference on Neural Networks (IJCNN)
- **Second author.**
- **INSPEC Accession Number:** 22111641
- The Research use deep learning method in automatic acupoint detection and propose an improved High-Resolution Network (HRNet) method for hand acupoint detection.

INTERNSHIPS & WORK EXPERIENCES

6-month work experience, China Meteorological Administration, 2021.08-present

- Completed the function of wind plume drawing, based on the data of wind speed and direction.
- Participating in the satellite fire monitoring and prediction group, building a graph embedding model based on the Naive Bayes algorithm.
- Managed the database and finished the back-end service.

8-month Internship, Institute of Automation, Chinese Academic of Sciences, 2020-2021

- Designed the robot framework and programmed the system by using language C.
- Participated in building a research topic prediction system based on improved HRNet. In detail, it is mainly from three aspects: the improvement of network framework based on cascade mode, the improvement of unbiased data decoding based on offset and the improvement of lost data based on soft online key point mining
- Contributed a paper, which is under review.

EXTRACURRICULAR ACTIVITIES & REWARDS

- First-class University Scholarship, North China University of Technology. 2018&2019&2020
- Blue Bridge Cup Programming Competition, Second Prize, Beijing. 2018&2019
- First-class Graduate of Beijing 2021 Students. 2021
- First-class Graduate of North China University of Technology. 2021
- IELTS English Certificate. **Score:** 6.5 2021.07
- **Volunteer:** Helped international students learn mandarin once a week in freshman year.
- **Student Union:** Minister of the Department of Computer Security Association.