

Tianbo (Tyrion) Song

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TECHNICAL SKILLS

Data Analysis and Statistics: MySQL, SQL Server, Redis, Pandas, SSIS, SSRS, ELT

Design and Applications: MATLAB, Mathematica, Multisim

Programming: Python, Java, JavaScript, PHP, C, C++, swift

Robotics: ROS, Gazebo, PLC

AI & tools: Machine Learning, PyTorch, TensorFlow, NumPy

PROFESSIONAL EXPERIENCE

Industrial and Commercial Bank of China New York Branch (Data Engineering) 06/2021 – present

- Develop PHP Unit for ELT based on SQL Server query for ICBC.
- Write python script to test the model on remote server.
- Analysis data based on SQL Server by SQL and Python script.
- Design a middleware database service to handle the analysis result from different resource.

Futu.ORG (Quantitative Trader) 10/2020 – 05/2021

- Built the basic robot based on unofficial Robinhood API and history data for TQQQ and SQQQ
- Design reinforcement learning model.
- Built a 10-thread web crawler to get real time stock data from Yahoo and using Webull for trading.
- Switched to FUTU official API, using KDJ, several MA indexes and TTM squeeze doing real time day trading.
- Optimize the profit at +0.5% daily in average compared to S&P 500.

CHINA HI-TECH GROUP CORPORATION (Java Developer) 11/2017 – 06/2018

- Optimize and design Restful style micro service calling.
- Write SQL script for query.
- Analysis Data based on JSON and MYSQL.
- Develop Java background unit.
- Design JingWei FangJi Accessories Online-Market (<http://beijian.ttfj.com/>)

BEIJING FUTURE TECH CO.LTD (Co founder, Senior IoT Engineer Project Manager) 07/2014 – 10/2017

- Designed the “Building Intelligence Weak Electricity Systems”
- Manage and in charge of construction in several communities.
- Hardware design in products of “Beijing Future Tech Smart Home System”.
- Designed the ‘Wall art based on lighting control system’.
- Wrote and review in all technology develop document of “Beijing Future Tech Smart Home System”.

ACADEMIC PROJECTS

ASU, Lachesis-DL: Data Placement Optimization for Distributed Deep Learning

Design an automatic dispatcher to balance the load and feature to a Distributed Deep Learning system based on sketching data with streaming format.

SWARM robotic of obstacle avoidance

Built up a SWARM based obstacle avoidance and target tracking system in dynamic environment (ROS Gazebo)

Dynamic Emotion Replacement by Face Recognition and Camera tracking

Built up an emotion dynamic face recognition and tracking system in video stream.

Robot movement planning (snake arena)

Designed a two-agent game with Genetic Algorithm, where the agents can learn how to fight with each other.

ENMU, Dynamic Timing Password Lock

Designed an Electronic password lock which password depend on digit number and time frame.

ACADEMIC WORKING EXPERIENCE

Eastern New Mexico University, Tutor on ‘Digital circuits’

08/2013 –12/2013

EDUCATION

Arizona State University, Tempe, AZ

M.S of Computer Engineering 08/2018- 05/2020

Eastern New Mexico University

B.S of Electrical Engineering 08/2012-05/2014

University of Electronic Science and Technology of China

B.S of Network Engineering 08/2010-06/2014