**Tianbo (Tyrion) Song**

480.628.7726 • tsong18@asu.edu •https://songtianbo.github.io/ •

***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