Chun Hao Wang

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Passionate software engineer with solid programming, algorithm and communication skills. Self-starter with lifelong learning mentality and adept at collaborating with developers and designers.

Experience in

- Algorithm and Deep Learning
- Quantitative Trading
- Cryptocurrency
- Object-Oriented Programming
- Software Architecture Design
- Web Service Development

Lang.&Tech. C/C++, Python, Javascript, Web3, DJango, Flask, Node, React, AWS, GCP

Education

2012–2015 **National Taiwan University - Bachelor of Computer Science (Taipei, Taiwan)**.

Work Experience

9(19') – 3 2020 **Lead Engineer, Steaker**.

- Managed multi-strategy hedge fund specializing in statistical arbitrage, long/short, fixed-income, volatile, and carry arbitrage strategies. Cumulative assets under management of approximately $1 million since 2020.
- Implemented a quantitative trading system that monitors, back-testing, contract-interaction, and place orders on both centralized exchanges (included Binance, Bitfinex, FTX, ByBit, and Okex) and decentralized finance service (included Synthetic, Uniswap, Compound, Curve, dYdX.
- Performed in-depth financial and operational due diligence on investment opportunities. Analyzed market trends, competition, information on blockchains, and potential growth/risks using information obtained from multiple data sources.
- Designed security architecture includes a warm-wallet system for cryptocurrency custody, crypto wallet system for transfer and bookkeeping, cybersecurity rules for employees include PMs, marketings, designers and engineers, and software development process for the engineering team.

3(18') – 8 2019 **Senior Software Engineer | Data Scientist, Mithril**.

- Implemented a digital assets wallet with Flask, cold & hot wallet system that supports 4 public blockchains: Ethereum, Bitcoin, Binance Chain, and Tezos, custody over millions of US dollars assets, handled over 3,000 daily active users.
- Developed a fraud detection and an AML (Anti-money laundering) system based on transfer information on the Ethereum chain. This system prevented more than 100k US Dollars loss.
- Developed a Paypal-like online payment system, provides merchants and customers to easily and safely send and request cryptocurrency.
- Formulating the social mining model and staking model. Adjusted our token distribution model through research user behaviors, user contents, and information on Ethereum Chain.
- Built a graph database (neo4j) from user behaviors, user contents, and information on Ethereum Chain for data mining. Formulating and adjusted the social mining model and staking model, labeling abnormal users, and increasing user activity.
- Built a safe search system that supports our Instagram liked social network service, LIT, to filter undesirable content, it could handle nearly 2,000 concurrent users.
- Built a recommender system based on image labeling, user-behaviors, and graph-based features with matrix factorization.
- Enhance token market-making strategies via multiple features (MACD, MAs, RSI, etc.) and different models (LSTM, Tree-based, linear model, and ARIMA).
- Saved 2/3 Google Cloud Platform costs through system monitoring.
- Built multiple dashboards and admin interface with Datastudio, Plotly Dash, Django, Flask, and React for marketing, PM, and business partners. Include monitoring on Binance community voting, token transfer on the chain, assets position sheet, user behavior statistic, and customer service tools.

10(16') – 3 2018 **Senior Developer, Trend Micro**.

- Implemented an auto-encoder model to combine static file features and dynamic behaviors, which reduced a 10% FP rate on the javascript malware detection model.
- Implemented a CNN model to provided generic raw byte detection solution and achieve a 96% F1-Score. The solution extremely accelerates the release of first-line protection for malicious attacks.
- Led intern and file scanning machine learning research team investigate patterns in over 50 million files. Implemented customer loss function (mean binary cross-entropy), class-weight, batch sampling, gated CNN, triplet loss, one-shot learning, word embedding, attention model, neural Turing machine, and TensorFlow visualization.
- Applied PGO to enhance scan engine performance.
- Implemented RAR, MDB, and PE scan module in C that support 22 operating system.
- Implemented deep q-learning algorithm of reinforcement learning to play TrendMicro AI poker competition.
- Implemented computational graph pattern solution in C to support deep learning model run on office clint in 22 operating system.
- The employee of the quarter of 2017 Q2.

11(15') – 9 2016 **Administrative enforcement agency, Ministry of Justice of Taiwan**.

- Improved government's debt collection efficiency by looking into 14 years of government data (over 10 TB) and developing a model with machine learning techniques. The model could reduce 65% of expenses in an ideal situation.
- Maintained web service (.NET) and optimized SQL quires.

8(15') – 10 2015 **Research Assistant, NTU Speech Processing Laboratory**.

Participated in MIT Babel Project on low-resourced language model research. Tried to build a language model through the sequence model in deep learning (CTC), to solve the insufficient labeled data in Austronesian languages.

7 – 8 2014 **Software Engineer Internship – Muxnet information co. ltd**.

Assisted in the network architecture designed for the police department and local tax bureau. Offer the solution with the SIEM system for them and implement automatically generate reports with analysis potentially ATK attack.

Project

C Server 2016/08 Implemented a high-performance server in C, which contains a lock-free job queue, reactor pattern and thread pool. The results were shared on the 2016 COSCUP.

CTC.py 2015/09 Implemented a Bi-LSTM for character-based end-to-end system on low resource language. Find the research result in the article 'An Acoustic Recognition End-to-end System on Under-resources Languages.

FlyGesture 2015/01 Designed a series of human-computer interaction experiments on how humans use gestures to control flying objects.

buttSnake 2014/10 A snake game that uses a butt to play. Implement with Arduino and pressure sensor to let the butt control the snake, and display the game GUI through processing.

TimeLine 2014/06 Developed a website that crawls the most popular Taiwanese content-based website to help users unveil other users' behavior and led a term of three in the pursuit of a more friendly interest community. Generates 8,000+ total users within three months. NodeJS as our backend and crawler.

PeopleCount 2014/06 Used the Intel Galileo board to catch nearby WIFI packet and resolve the information inside. Counted the number of nearby people through distinct SSID. Used python for packet resolve and AWS SQL server to store the information.