Shukai Ni

DATA SCIENCE · QUANTITATIVE FINANCE

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Education

Minerva Schools at KGI   *Worldwide*
COMPUTATIONAL SCIENCES & BUSINESS   *Sep. 2018 - May. 2022*
- (Major)Applied problem solving + (Major)Strategic Finance
- GRE 338/340

Research Projects

The IBM Qiskit Global Summer School   *Remote*
LECTURES & LABS   *July 2021*
- Explored Quantum Approximate Optimization algorithm and applications
- Analyzed Quantum Boltzmann Machines and Quantum Generative Adversarial Networks
- Performed lab experiments on IBM Quantum platform

Correlation between Fama-French factors and business cycles   *Remote*
DATA ANALYSIS   *June 2021 - PRESENT*
- Thoroughly explored existing FF3, FF5, Carhart models
- Implemented a probit-based recession prediction model
- Experimentally validates correlation between FF factors and business cycles

Quantitative trading PaaS   *Remote*
FULL-STACK DEVELOPMENT   *Sep. 2020 - PRESENT*
- Developed a benchmark tool based upon LSTM prediction
- Designed UI&UX with quantified alpha/beta testing
- Implemented low latency APIs that allow high frequency trading via HTTP

ESG fund voting pattern research   *Remote*
DATA PROCESSING   *Feb. 2021 - Mar. 2021*
- Designed a multi-thread crawler to acquire voting records from SEC edgar database
- Filtered and analyzed data using regular expression

Re-examine recessional velocity based upon a 'variable' Hubble constant   *San Francisco, United States*
LITERATURE REVIEW & DATA ANALYSIS   *Nov. 2018*
- Provided a unified framework for existing theories and explanations
- Quantified recessional velocity index using linear regression

San Francisco rising sea level monitoring and prognosis   *San Francisco, United States*
DATA COLLECTION & ANALYSIS   *Dec. 2018*
- Extensively sampled sea level and ecological data along San Francisco coastline
- Validated results with ex ante probit model based upon historical data
- Performed a case study with SFO's designers on city planning

Internship Experiences

Chongqing International Trust   *Wuxi, China*
ASSISTANT   *July. 2021*
- Diagnosed project finance risks based upon macroeconomics policies
- Analyzed and validated Snowball derivatives using Monte Carlo knock-in/out options

Addor Capital   *Nanjing, China*
INVESTMENT ASSISTANT   *May. 2021 - Jun. 2021*
- Identified fraud risks during financial due diligence
- Quantified and analyzed Cyber Range industry performance using DCF and linear regression

Shunzhi Tech Inc.

PROJECT MANAGER & CODER

Nanjing, China

Jun. 2020 - Sep. 2020

- Designed a change detection model on VHR satellite pictures(34% better than benchmark)
- Implemented real-time video stream object detection project
- Heterogeneous computing analysis and development on multiple service providers

Consulting with Frauenmond, TBM Inc.

CONSULTANT

Seoul, Korea

Oct. 2019 - Dec. 2019

- Analyzed Korean chocolate market with Porter's Five Forces Model and managerial accounting
- Strategized with Encouragement Study based on Genetic Matching and Regression Discontinuity
- Offered Neural Network model for Alpha/Beta tests on feature designing

Project Safe Francisco with Gensler Inc.

PROJECT MANAGER & CODER

San Francisco, United States

Sep. 2018 - May. 2019

- Developed a San Francisco simulation game, chosen as showcase project
- Scripted game events based on interviews and surveys
- Continuous intergration with Gensler Inc. and their architecture designing team

Nine Chapter Inc.

WEB DEVELOPER & COMPONENT DESIGNER

Shanghai, China

Aug. 2017 - Nov. 2017

- Streamlined frontend building process
- 20x speedup for project building with caching design
- Bridged major front-to-back communications & REST API design

Skills

- **Expert:** Python, *nix, React.js, Git, Matlab

- **Proficient:** SQL, R, Burp Suite, Docker, CI, Heroku

- **Intermediate:** TensorFlow, C/C++, Dask, Redis