

Shukai Ni

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Education

Brown University

DATA SCIENCE/COMPUTER SCIENCE, M.Sc.

GPA 4.0/4.0 - Providence, RI

Sep. 2022 - May. 2024

- Deep Learning, Statistics and Probability, Data Analytics, Operating Systems, Parallel Computing on CPU/GPU...

Minerva University

COMPUTATIONAL SCIENCES & BUSINESS, B.Sc.

GPA 3.8/4.0(Top 5%) - Worldwide

Sep. 2018 - May. 2022

- (Triple Majors) Data Science and Statistics, Software Development, Strategic Finance
- Data structure, Linear optimization, Machine learning, Software Development, Bayesian statistics, Accounting...

Skills

Certificates KLCP, Alteryx Core, Qiskit Quantum Excellence

Programming Python, C, PHP, SQL, R, MatLab, Quantum Machine Learning

Web HTML/CSS/JavaScript, React.js, jQuery, Flask, Django, Docker

Tech Stacks TensorFlow, Redis, Kafka, Alteryx, Tableau, Spark

Tools GDB, Git, LLVM, LaTeX, Jupyter, Terraform, AWS, GCP, Ansible

Languages English (Fluent), Mandarin (Native)

Tech experiences

(Research) SysXCHG: a dynamic Linux kernel filter for system calls

Providence, US

BROWN SECURE SYSTEMS LAB

Jan. 2023 - Present

- Developed an advanced log-time syscall filtering application using seccomp BPF, resulting in improved system efficiency
- Customized Linux kernel 6.0.8 compilation, integrating arity-based filters for enhanced performance
- Designed versatile syscall handlers for policy-driven binaries, enabling flexibility and streamlined execution

(Internship) Corporate Audit: data automation and technology

Charlotte, US

BANK OF AMERICA

May. 2023 - Aug. 2023

- Implemented audit testing coverage through streamlining protocols, leading to 25% time savings
- Visualized coverage statistics through Python and Alteryx, delivering analysis to senior directors
- Developed high-concurrency data workflows for SQL and NoSQL databases

(Internship)Full stack trading data solution

Remote, US

ELLE INVESTMENTS

May. 2022 - Dec. 2022

- Overhauled a low-level persistent storage saving 20% write time, 40% read time, and 45% RAM, increasing overall performance
- Addressed SQL injection vulnerabilities and restructured MVC+OOP stateless deployment framework to strengthen security measures
- Implemented a dynamic HTTP cache that increased concurrency by 1000x, significantly enhancing the overall user experience

(Research) Timing strategy based on spread curve inversion, second author

Remote

CORRELATION BETWEEN FAMA-FRENCH FACTORS AND BUSINESS CYCLES

June 2021 - PRESENT

- Advised by Dr. Arnav Sheth from MIT
- Developed a probit-based recession forecasting model, achieving 70% accuracy, which contributed to a 10% annualized return
- Analyzed business cycles through Fama-French factors using ex-ante and ex-post evaluation methods, confirming the model's validity

Finance Projects

Chongqing International Trust

Wuxi, China

(INTERN)ASSET MANAGEMENT ASSISTANT FOR QUANTIFIED FINANCIAL PRODUCT RESEARCH

July. 2021

- Conducted in-depth risk assessments influenced by macroeconomic policies, optimizing investment security
- Evaluated consumer investment strategies through data-driven research, adapting to diverse economic scenarios
- Streamlined analysis and validation of Snowball derivatives employing Monte Carlo simulations for knock-in/out options, enhancing accuracy and efficiency

ESG fund voting pattern research(published)

Remote

DATA PREPROCESSING AND ANALYSIS WITH ARNAV SHETH AND GITA RAO(MIT SLOAN)

Feb. 2021 - Mar. 2021

- Developed a multi-threaded web crawler for extracting voting records from the SEC EDGAR database, leading to faster data acquisition and reduced processing time
- Implemented a universal data pipeline using regular expressions for accurate filtering and analysis, streamlining the data processing workflow and enhancing output quality