Shun Guo (Sean)

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EDUCATION

Duke University   **Durham USA**
Master of Engineering in Financial Technology   *Aug 2024 - May 2026*
- **Major Coursework:** Python and C++, Financial Statistics and Economics, Software Engineering for Fintech, Machine learning for Fintech, Asset Pricing, Blockchain, Quantitative Risk Management, Quantitative Investment Analysis, Data Wrangling and Visualization

Duke Kunshan University (DKU) & Duke University   **Kunshan, China** & **Durham, USA**
B.S.in **Applied Math & Computational Science - Math** Concentration   *Sep 2019 - Dec 2023*
- **Major Coursework:** Complex Analysis, Linear Algebra, Java, Numerical Analysis, Real Analysis, Information Theory, Math of Machine Learning, Math Modeling, Data Structure, Stochastic Process, Algorithm and Database, Computer Architecture

PROFESSIONAL EXPERIENCES

Tenneco.inc, Hardware Driver Engineer | Onsite Intern | Supervisor: Mazon Chen   *March 2024- Jun 2024*
- Develop a PID algorithm to control the urine pump in the Selective Catalytic Reduction with C programming language.
- Tested and debugged the controller for the urea pump in their post-processing system.
- Help developed sign in system for the HR department with FastAPI and Vue.

CITIC Securities, *Analyst & fintech developer* | Onsite Intern | Supervisor: Minghua Shen & Zhenyu Xu   *Jul- Aug 2022*
- Developed a data crawler in Python to acquire company data with recent private placement plans daily.
- Developed a chatbot on Wechat communicating daily private placement data.
- Collected data from listed companies in CSI 1000 Index with Choice API to analyze their stock performances.
- Drafted reports based on analyses on business and shareholder compositions, market, capital operations, and industrial chain.

CICC, *Quantitative Analyst & Developer* | Remote part-time assistant | Supervisor: Huajie Chen   *Jun- Jul 2021*
- Acquired, analyzed, and visualized historical transaction data within the CSI300, CITIC Primary Industry, SZSE Component, SSE SME Composite Index to evaluate market performances in Python, and detected the Calendar Effect.
- Created an analytical module that could evaluate the performance of a given list of public offering funds in Python.

PROJECTS & EVENTS

XDC Go-to-market strategy   *June 2025- Aug 2025*
- In the project cooperating with Xinfin. Ltd., studied the whitepaper and backing technology for XDC and its major competitors in L1 blockchain, including Ethereum, Solana, Avalanche, and Hedera.
- Created a drawback report for XDC by social media analysis. Presented and discussed the drawbacks with senior management team in Xinfin. Ltd.

Hack Duke 2025   *Feb 2025- Feb 2025*
- Created backend APIs for the Hackathon project using Django, including functions of accessing stock data and metadata with Yahoo finance and Alphavantage API, calculating financial ratios for company, fetching stock news of a chosen period, and auto-generating report with OpenAI API.
- Fixed bugs and design issues in the React.js frontend. Optimized the frontend system to improve the reaction speed.

North Carolina business study for NC Bankers Association   *Oct 2024- Dec 2024*
- Accessed data with web scratching technology powered by selenium in Python. Over 300k lines of business data are obtained.
- Analyzed the data based on their number of employees and annual sales. Calculated related statistics and visualized them on map with Geoplot. Stratified businesses for deeper insight.

Chatbot development based on VITS audio synthesizing | A school research   *Aug 2022- May 2023*
- Built a cross-platform chatbot based on Nonebot and VITS for audio synthesizing.
- Improved the extendable chatbot framework with basic function of receiving and sending messages.
- Collected languages corpus data for VITS training, cleaned and transferred the English model for Chinese and Japanese.

Audio and Image processing using the Fast Fourier Transformation (FFT) | A school lab project   *Nov 2020 -Dec 2021*
- Built an analog audio system in Python using SCIP and NumPy to have realized noise reduction works by using FFT.
- Studied the algorithm by analyzing the application FFT used in audio and image processing with Julia FFTW and WAV.
- Established a high-pass filter that could pass certain signals with cutoff frequencies and be used for future audio processing.

EXTRACURRICULAR ACTIVITIES

Founder & Finance Manager (*ACG Club of DKU*): Connected external sponsors, organized club activities *Feb 2020 – May 2023*
Member & Debater (*Debate Club of DKU*): primary debater in 10+ events, peer-tutor and member recruiter *Sep 2019-May 2923t*
Member (*Committee of Artistic Music Festival of DKU*): coordinated musicians, assisted during concerts *Dec 2019 - Feb 2020*

COMPUTER SKILLS

Programming languages: Python, **Java**, **C/C++** and **SQL** (PostgreSQL, SQLite).
Tools & OS: Mathematica, MATLAB, Photoshop, Premiere Pro, Illustrator, Markdown, and LaTeX; Windows, Linux-Debian, and MacOS.

OTHER INFORMATION

Languages: **Chinese** Mandarin (native), **English** (proficient), and **Japanese** (conversational).
Certificates:
- From Coursera: Machine Learning (by *Stanford*); Python Data Structure; Computer Science: Algorithms, Theory, and Machines; Computer Science: Programming with a Purpose (by *Princeton University*), Moral Foundations of Politics (by *Yale*).
- CFA Lv1.

Personal Interests: logic studies, debate, graphic design and illustration, web design, and modding for games.