JIE NIU

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🎓 EDUCATION

Queen's University at Kingston   2017 – 2022

Bachelor of Computing (Hon.) specialized in Computer Science and Mathematics

💼 PROFESSIONAL EXPERIENCE

Faculty Support   Apr. 2021 – Present

Smith School of Business, Queen's University

Administrative Support for faculty members. Utilized PeopleSoft, managed course websites through D2L, prepared expense claims, organized supplies, and performed other essential tasks as needed.

Technical Support Representative   Jan. 2021 – Apr. 2021

Kingston Online Services, Kingston, ON

Assisted customers by troubleshooting internet connection and email issues, configured hardware, and responded to calls and support tickets at a help desk environment.

🏛 ACADEMIA EXPERIENCE

Adjunct Instructor   Jan. 2023 – Apr. 2023

St. Lawrence College, Kingston, ON

COMP 53 – Intermediate Database

- Taught beginning to intermediate SQL concepts for database design and querying;
- Facilitated class discussions in-person and via online hybrid;
- Introduced students to advanced database topics.

Research Assistant   Jan. 2022 – Present

Smith School of Business, Queen's University

Delivered technical components to support research projects.

Past and Current Projects:

- Conducted geospatial analysis to map 3G and 4G mobile coverage across U.S. Census ZIP Code Tabulation Areas (ZCTAs) using shapefiles and data in GeoTIFF format.
    Tools used: R, ArcGIS, PostGIS
    Supervisor: *Prof.* Shu Zhang & Yu Hou
- Data Mining on Bloomberg Terminal combined with financial databases (WRDS). Wrote automated scripts to extract current corporate credit ratings and update in database.
    Tools used: R, PostgreSQL, GitHub CI/CD Actions
    Supervisor: *Prof.* Evan Jo
- Research data processing on retirement, longevity, and annuity pricing. Virtual file system implementation for database file storage.
    Tools used: R, PostgreSQL, Linux HPC
    Supervisor: *Prof.* Evan Jo
- Web scraping for financial data from Yahoo Finance. Built time series data and conducted sentiment analysis on user conversations.
    Tools used: Python, R, Docker
    Supervisor: *Prof.* Jingyu Zhang

Teaching Assistant Jan. 2022 – Present

Smith School of Business, Queen's University

- COMM 121 (Introduction to Finance, Fall 2024)
  Head TA - managed course logistics, facilitated exams & accommodations, maintained student records.
  Supervisor: *Prof.* Alison Taylor & Evan Jo

- COMM 420 (Financial Technology and Innovation, 2022/23/24)
  Graded assignments; facilitated R programming workshops for quantitative trading.
  Supervisor: *Prof.* Evan Jo

- MGMT 921 (Capital Markets, Theory and Empirics, 2022/23/24)
  Conducted workshops and tutorials on R, Python, PostgreSQL, and WRDS.
  Supervisor: *Prof.* Evan Jo

- COMM 493 (Analytics & AI for Business, Winter 2023)
  Graded business case and coding assignments; developed technical documentation for students.
  Supervisor: *Prof.* Shaun Cahill

- COMM 161 (Intro. to Mathematical Analysis, Fall 2022)
  Head TA - supervised grading, organized weekly tutorials, maintained student records.
  Supervisor: *Prof.* Matthew Thompson

👤 Personal Projects

- LinkedIn data harvesting
- SEC EDGAR archiving and analysis
- Smart home wiring and automation
- Studying for RHCSA linux certification
- Frontend and backend design of a homomorphic encryption algorithm

⚙ Skills

- Writing: LaTeX
- Programming Languages: R == SQL > Python == C > Java
- Platform: Mac; Linux; HPC Clusters (*High Performance Computing*)
- Development: Containers (Docker, Podman, Singularity), Web Development (Django, Flask, R Shiny)

♡ Honors and Awards

Queen's University Excellence Scholarship Sep. 2017
Queen's University General Bursary Apr. 2020

ℹ Miscellaneous

- Notable undergraduate courses: *Logic for Computer Science, Calculus III, Graph Theory*
- Languages: English (Professional), Mandarin (Native), Cantonese (Beginner)