William Wang

Contact Information

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Education

Rutgers University - School of Arts and Sciences — New Brunswick, NJ
Bachelor of Science, Mathematics and Computer Science — Graduating May 2023
Cumulative GPA: **3.83**/4.0

Relevant Coursework

Data Structures	Algorithms	Software Methodology	Probability Theory
Data Science	Databases	Systems Programming	Computer Architecture

Skills

Languages: Java, SQL, C, Python, MATLAB, Maple
Libraries/Frameworks: JavaFX, NumPy, Pandas, Matplotlib, Bootstrap, Spring/Spring Boot
Others: Git, HTML/CSS, Postman, Android app development, LaTeX

Work Experience

BNY Mellon - Pershing LLC — Jersey City, NJ
Software Engineering Intern — Jun - Aug 2021

Project 1:
- Developed a Java library which enables BNY Mellon developers to retrieve sensitive files, keys, certificates, and other info stored on a secured internal web server programmatically
- Deployed library into production, and is being integrated by developers at Pershing and possibly in future applications across all BNY Mellon businesses

Project 2:
- Developed and deployed a RESTful API which utilize stored procedures within an Oracle database to access institutional client capital data
- Will be used by traders and financial advisors across BNY Mellon

Rutgers University Mathematics Department
Undergraduate Grader — Spring 2021 - Present
- Grade student assignments and work closely with professor to optimize student learning experience
- Graded for ODEs (Spring 2021), Calculus II (Summer 2021), and Numerical Analysis (Fall 2021)

Research / Projects

3-Dimensional Lattice Paths
Project Leader — Nov - Dec 2020
- Reduced time complexity of solving an open-ended combinatorics problem from $O(6^n)$ to $O(n)$
- Published new entries to the Online Encyclopedia of Integer Sequences (OEIS) with peer-review and approval from OEIS editors/academic mathematicians
- **Key Achievement:** Authored the new integer sequence A339390 and found new phenomena in nature which the sequences A2898 and A208425 describe

Comparison of Advanced Quadrature Techniques — Mar - Apr 2021
- Studied and applied Gaussian-Legendre quadrature and Romberg's method; learned their theoretical convergence rates/error bounds and computational complexity and estimated areas under various real functions with high accuracy
- Experimented with hybrid quadrature techniques in attempt to create highly optimized numerical integration algorithms for various functions

Organizations / Extracurricular Activities

Rutgers Quantitative Finance Club
Mathematics Chair — Fall 2021 - Present
- Give presentations on core mathematical concepts of quantitative finance such as probability theory, statistics, and creative approaches to problem solving
- Preside over club-wide decisions and contribute to the mathematics knowledge and resources of the club