Jennifer Shan

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EDUCATION:

Wellesley College, Wellesley, MA 2019 - 2022
Bachelor of Arts in Chemistry and Computer Science GPA: 3.61, Major GPA: 3.80

- Coursework: Physical Chemistry I/II, Combinatorics/Graph Theory, Statistics, Data Structures/Algorithms, Computer Architecture, Artificial Intelligence, Computational Biology
- Activities: Hippocratic Society, Kaleidoscope Magazine

Massachusetts Institute of Technology, Cambridge, MA 2021 - 2022
Cross-Registered Student

- Coursework: Electronics Project Laboratory, Machine Learning
- Activities: Music Production Collective

SKILLS:

Languages: (proficient) Python, Java, SQL, MATLAB, (familiar) C++, JavaScript, TypeScript, R
Libraries: pandas, numpy, matplotlib, plotly, seaborn, nltk, scikit-learn
Technologies: Splunk, New Relic, Jenkins

EXPERIENCE:

Capital One, New York, NY
Associate Software Engineer Feb. 2023 - Present

- Working across stack to modernize account opening process in Java using AWS microservice architecture

Massachusetts Institute of Technology, Cambridge, MA
Research Assistant (Plasma Science and Fusion Center) Jun. 2022 - Jan. 2023

- Developed Geant4 Monte Carlo model in C++ to examine how CR39 nuclear track detector setup used in proton radiography may cause errors for reconstructing electromagnetic fields

Research Assistant (Nuclear Weapons Education Project) Jun. 2021 - May 2022

- Simulated infrastructure damage, health consequences, and resource scarcity caused by different explosions in downtown Boston to better understand the risks of nuclear weapon deployment
- Implemented parameters specifying time of day, windspeed, and weather conditions in JavaScript for more accurate thermal radiation modeling

Amazon Web Services, Herndon, VA
Software Development Engineer Intern May 2022 - Aug. 2022

- Devised automated warranty claim filing workflow using services including DynamoDB tables, Athena queries, and Lambda functions with Java and TypeScript to substantially reduce operational cost
- Presented proof of concept prototype to leadership and authored material on future directions for project

Wellesley College, Wellesley, MA
Student Grader (Algorithms) Jan. 2022 - May 2022
Research Assistant Apr. 2021 - Jun. 2021

- Refined Fermi calculations in Python estimating secondary electron flux caused by cosmic rays traveling through interstellar ices to help determine whether electrons created prebiotic molecules necessary for life
- Assisted in repair of ultrahigh vacuum chamber during troubleshooting

PUBLICATIONS:

T. M. Johnson, **J. Shan**, *et al.*; Intrinsic fluence non-uniformity in D^3He backlit proton radiography. *Review of Scientific Instruments*. 95, 093520 (2024). https://doi.org/10.1063/5.0215506

PROJECTS:

juce-audio-plugins | JUCE, C++

meowny | Flask, Python, bcrypt, PyMySQL, HTML, CSS

anon-emoji Jupyter Notebook, tweepy, pandas, scikit-learn