Jae-Hyun (Mason) Lee

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Education

Brown University — Providence, RI
Sc.B in Computer Science - Applied Mathematics, GPA: 3.88 — *Aug. 2021 – May 2025*

Relevant Coursework: Data Structures & Algorithms, Software Engineering, Machine Learning, Operating Systems, Computational Linguistics, Computer Systems, Discrete Structures and Probability, Computational Statistics

Experience

Machine Learning Undergraduate Teaching Assistant (UTA) — Jan. 2024 – Present
Brown University — *Providence, RI*

- Selected as one of 20+ UTAs out of 200+ applications (10% acceptance rate) for CS1420: Machine Learning in Spring 2024
- Redeveloped assignments for machine learning, facilitated office hours to reinforce key concepts and assist with conceptual/programming homework, and supported over 200 individuals by moderating an online question forum

Finance Leadership Development Program Intern — June 2023 – Aug. 2023
Verizon — *Basking Ridge, NJ*

- Leveraged Python/Pandas to extract, normalize, and automate complex data processes across 4 diverse databases, enhancing data accuracy and operational efficiency
- Engineered intuitive and insightful reports using GUI tool Qlik, translating funding data from device manufacturers - saved 600 hours per year across all teams involved

Applied Mathematics Teaching Assistant — Sep. 2022 – Present
Brown University — *Providence, RI*

- Created solution guides for homework including programming assignments in Python and held weekly office hours for 250+ students for APMA0350: Applied Ordinary Differential Equations and APMA0360: Applied Partial Differential Equations I

Software Developer — Sep. 2022 – Jan. 2023
Brown University - SmartCane Project — *Providence, RI*

- Implemented API endpoints in a Spark Java backend to facilitate seamless data retrieval and visualization of statistics within an Android application
- Gathered requirements/specifications through user studies/interviews and documented project progress for Brown DesignXHealth

Projects

Neural Machine Translation: Language to Logic | *Python, PyTorch, NumPy*

- Implemented a neural machine translation model using a Transformer encoder-decoder architecture with attention to translate natural language to machine-readable logical form expression
- Successfully developed the full Seq2Seq model to achieve up to 72% exact match accuracy and 89% per-token accuracy on testing data

Weenix OS | *C*

- Developed a Unix-based operating system kernel in C, featuring robust implementations of processes, threads, drivers, a file system, virtual memory management, and a comprehensive syscall API

Wiki Search Engine | *Python*

- Developed custom search engine with Python to index and query XML wikis, enabling users to search and explore XML wikis interactively
- Implemented TF/IDF term weighting and Google's PageRank algorithm to return optimized results

Activities & Leadership

Applied Math Dept. Undergraduate Group | *Website Manager* — Jan. 2023 – Feb. 2024
Meiklejohn Peer Advisor — Aug. 2023 – Present
Brown Pre-College | *Resident Assistant* — June 2022 - Aug. 2022

Technical Skills

Languages: Python, Java, C, TypeScript/JavaScript, SQL, C++, HTML/CSS, MATLAB, LaTeX
Frameworks/Tools: React, Node.js, Spark, Express, WordPress
Developer Tools: Git, Mongoose, Android SDK
Libraries: PyTorch, Scikit-Learn, NumPy, Pandas, spaCy