Quilee Simeon

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Summary

Research engineer trained at MIT working at the intersection of machine learning, scientific computing, and neural data. I build systems for modeling signals, optimizing inference, and turning messy datasets into reliable insights. Comfortable moving between experiments and code to build reliable tools for research teams.

Education

Massachusetts Institute of Technology (MIT), Cambridge, MA   *Expected 2027*

Ph.D. Candidate, Interdisciplinary Program in Brain & Cognitive Sciences and Statistics

M.S. in Brain and Cognitive Sciences, 2025   B.S. in Computation & Cognition, Minor in Statistics & Data Science, 2021

Selected coursework: Machine Learning, Deep Learning, Statistical Learning Theory, Advanced Computer Vision, Probabilistic Modeling

Technical Skills

Languages: Python, Julia, C, MATLAB   **ML/DS:** PyTorch, scikit-learn, JAX basics, Hugging Face   **Systems:** Linux, Slurm, HPC, Git   **Data:** SQL, Pandas, NumPy   **Tools:** Docker, VS Code, Marimo/Pluto notebooks, AWS

Research & Industry Experience

Numenta, Inc.   Menlo Park, CA

Machine Learning Intern   Jun 2025 – Sep 2025

- Designed and evaluated sparse training and inference approaches to improve efficiency of large language models on CPUs and emerging compute architectures.
- Implemented *sparse weights & activations* and *reverse distillation* experiments involving LLMs, built reproducible pipelines, and produced benchmarks that guided model and systems choices.
- Collaborated with research and systems teams, maintained clean experiment tracking, and presented results to cross-functional stakeholders.

MIT, McGovern Institute for Brain Research   Cambridge, MA

Graduate Research Assistant   2022 – Present

- Developed simulation and analysis tools for modeling neural dynamics and information flow in biological networks; led projects from data ingestion to statistical evaluation and visualization.
- Built unsupervised learning pipelines for high-dimensional neural datasets, emphasizing reproducibility and performance on shared compute.

Triplet Therapeutics   Cambridge, MA

Bioinformatics & Software Development Intern   2019, 2021

- Automated RNA sequence analysis pipelines, reducing processing time and increasing reliability for researchers.
- Implemented ML models for siRNA/ASO efficacy prediction and built AWS ETL workflows for downstream analysis.

Sagicor Life, Inc.   Barbados

New Business Intern   2017

- Automated death-claims logs, prepared end-of-month reinsurance billings, and issued policy documents to new clients.

St. Lucia Distillers Group of Companies   St. Lucia

Quality Assurance Analyst   2016 – 2017

- Established QA protocols and documentation practices and supported HACCP/ISO certifications.

Selected Research Projects

Neural Modeling and ML Systems

- Built end-to-end pipelines for signal preprocessing, feature extraction, and predictive modeling; emphasized testability and clear APIs for reuse by lab members.
- Explored scaling properties of neural models and data size, from simulation to evaluation; authored publication on forecasting neural activity with next-step prediction.

Honors & Awards

- **Oxford Rhodes Scholarship Finalist, Commonwealth Caribbean** — recognized for academic excellence
- **IEEE–Eta Kappa Nu Student Spotlight** — featured for open data sharing and research leadership
- **MIT Graduate Research Fellowship in Brain & Cognitive Sciences** — support for graduate work in neuroAI