

TOLUWANIMI ARIYO

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EDUCATION

Princeton University

Princeton, NJ

B.S. in Computer Science; Minor in Statistics & Machine Learning

Expected May 2026

- **Relevant Coursework:** Algorithms and Data Structures, Operating Systems, Machine Learning Algorithms, Computer Architecture, Advanced Programming Techniques, Distributed Systems, Human-Computer Interaction
- **Teaching Assistant Experience:** Applied Linear Algebra, Applied Physics, Applied Calculus
- **Awards & Honors:** Induction into Princeton Engineering Council (~8 students selected) - 2022/2023

EXPERIENCE

Datadog - AI Cloud Platform

New York, NY

Software Engineer Intern

May 2025 - Aug 2025

- (Summer 2025)

IBM - AI & Quantum Computing Research

Yorktown Heights, NY

Quantum Research Intern

Sep 2024 - Nov 2024

- Designed a protocol to perform calibrations remotely on qubits via IBM's **Qiskit** platform.
- Created a tutorial for this protocol and presented findings to the broader IBM Quantum research team. Implemented Mirror Randomized Benchmarking (**MRB**) in the Qiskit Experiments library for scalable measurement of average gate fidelities.

Microsoft - Copilot AI Business Platform

Redmond, WA

Software Engineer Intern

May 2024 - Aug 2024

- Configured a Copilot AI enabled and LLMs data trained deflection bot to handle more than **80%** of customer queries, enabling the customers to self-serve their requests faster and efficiently (**Python**).
- Created Figma mock-ups of app screens and made sample Power Apps that highlight native capabilities such as barcode/NFC reading, mixed reality, etc. (**React.js, JavaScript, HTML/CSS**).

Amazon - Supply Chain Optimization Technologies

Bellevue, WA

Software Development Engineer Intern

May 2023 - Aug 2023

- Extracted weblab info from PPDC (Promise Policy Dynamic Configuration) containing crucial Promise configurations for constraints, contribution profit, cost band, ship-option eligibility, overrides etc into AWS APP Config (**Java, Kotlin**).
- Constructed systems to deliver products to **250,000,000+** customers with approximately **9%** lower latency rate (**Java**).
- Configured large scale distributed systems using AWS technologies and augmented complex real time systems leveraging data from **1,000,000,000+** of orders to pioneer new scalable solutions (**Kotlin, Java**).

National Institutes of Health - National Institute of Diabetes and Digestive and Kidney Diseases

Bethesda, MD

Software Engineer Intern

June 2021 - Aug 2021

- Constructed a computational method to mathematically model ultra-low coverage scDNA seq data of tumor cells (**Python**).
- Implemented machine learning approach to accurately detect tumor cells in ultra-low coverage single-cell DNA sequencing data, optimizing algorithm for approximately **98%** detection across Patient S0 and Patient S1 (**Python**).

PUBLICATIONS

Detecting Distracted Driving Using Computer-Vision Video-Based Analysis

May 2025

- Russakovsky, Olga; Bogucki, Peter; Ariyo, Toluwanimi, "Detecting Distracted Driving Using Computer-Vision Video-Based Analysis" (2025). *Princeton University Department of Computer Science Journal*. 381.

Machine Learning Algorithm for Tumor Cell Detection in Single-Cell DNA Sequencing Data

Feb 2022

- El-Kebir, Mohammed; Halpern Felsher, Bonnie; Ariyo, Toluwanimi, "Tumor Cell Detection in Single-Cell DNA Sequencing Data" (2022). *South Carolina Junior Academy of Sciences Journal*. 159

PROJECTS

Fraud Detection | Java

Nov 2023

- Designed a machine learning model to detect fraudulent credit card transactions with an optimized accuracy of **89%**.
- Performed dimensionality reduction utilizing a clustering algorithm and partitioned points into k clusters. Implemented decision stump ML for the weak learner machine learning model and the boosting algorithm, following with testing.

ADDITIONAL INFORMATION

Languages: Java, Python, JavaScript, HTML, CSS, Matlab, C#, C/C++

Developer Tools: Git, Google Cloud Platform, VS Code, Visual Studio, PyCharm, IntelliJ, Eclipse

Interests: Full Stack Development, Applications Programming, Statistical Analysis, Artificial Intelligence, Research, Soccer, Travel