

Ayo Adetayo

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Summary: Senior technical product strategist, engineer and Columbia CS undergraduate with four years of experience building and scaling 0-to-1 products at Amazon and SpaceX. Led cross-functional teams from customer discovery and applied research through system design, experimentation, launch, and commercialization, delivering measurable outcomes across consumer, enterprise, and platform businesses. Returned to school after professional break to deepen hands-on engineering and ML expertise.

Relevant Education

Columbia University

New York, NY

Bachelor of Arts, Computer Science Major, Political Science Minor (GPA: 3.82)

Graduation Date: May 2027

Relevant Coursework: Linear Algebra, Probability, Machine Learning, Game Theory, Natural Language Processing (A+), Neural Networks & Deep Learning

Recent Work Experience

SpaceX | (2026 – Present)

Technical Product Engineer Intern

05/2026 – Present | Hawthorne, CA

- Led 0-to-1 product strategy and customer discovery for Starlink AI Fabric Networking, translating AI-cluster requirements from Anthropic and Google into network topology, capacity, service-level, and launch requirements; launched two enterprise pilots representing a modeled \$288M annual recurring revenue opportunity.
- Defined the commercial architecture and pricing strategy for a fixed-site Dedicated Internet Access product, using a Bertrand competition model to quantify willingness to pay across latency, throughput, and reliability; selected service tiers and price bands projected to improve margin by 8% while preserving conversion.
- Led engineering delivery of a unified Starlink.com/business ordering architecture across business and residential plans and hardware, coordinating data-cluster migration, catalog redesign, and satellite-capacity modeling; increased checkout conversion by 4.2% and generated \$13M in quarterly revenue.

Amazon | (2019 – 2026)

Senior Product Manager

01/2025 – 02/2026 | New York, NY

- Launched Business Essentials, a two-stage ML product that ranked priority B2B categories and 105K products using demand, repeat-purchase, bulk-buying, competitor, brand, and substitution signals; drove inventory, pricing, search, and fulfillment actions that reduced out-of-stock rates to 5.0% versus 7.1% and generated \$318.5M in first-year sales and cost savings.
- Led science and engineering development of B2B forecasting and inventory-placement models using product economics, demand elasticity, sales velocity, order patterns, and frequently-bought-together signals to position high-demand inventory closer to customers; improved prediction accuracy by 15%, increased product-detail views by 11%, and reduced split shipments.
- Owned model design and production launch of Automated Replenishment Manager, a decision-support product that converted probabilistic demand, inventory, unit economics, and lead times into actionable replenishment recommendations for third-party sellers; improved recommendation accuracy by 22%, increased availability without excess inventory, and saved \$15M annually.

Senior Policy Product Manager

02/2024 – 01/2025 | New York, NY

- Led Project HALO, a session-level attribution and product-ranking system that connected creator referrals to every order completed during the resulting shopping session; transformed purchase and conversion outcomes into training and evaluation signals for personalized creator recommendations, driving \$113M in contribution profit.
- Owned the ML risk roadmap for synthetic traffic, self-purchases, and attribution abuse; partnered with science and engineering to define behavioral features, training labels, model-quality metrics, and automated-decision thresholds with human-review and appeal fallbacks, improving precision by 22%, reducing escalations by 20%, and delivering \$56M in operating savings.
- Led product development and launch for a computer-vision content-understanding platform that evaluated creator videos for originality, fraud risk, product relevance, and predicted conversion; set model objectives, evaluation criteria, and rollout thresholds, and integrated outputs into automated enforcement and personalized recommendations that reduced violative content by 25%.

Continuous Improvement Manager

01/2023 – 02/2024 | Los Angeles, CA

- Led effort to improve on time delivery and quality for LA and San Diego by designing and deploying routing optimization algorithm, leveraging delivery density and geospatial data; reduced failed deliveries by 18%, saving \$15M in concessions and \$8M in reprocessing costs.

Skills / Technical Proficiencies

- Programming & Data:** Python, Java, C++, SQL, JavaScript, HTML/CSS, React.js, Node.js.
- Machine Learning:** TensorFlow, PyTorch, scikit-learn, NumPy, Pandas, Keras; neural network training, dimensionality reduction (PCA), deep learning, natural language processing, loss optimization and convergence evaluation.
- Data & Analytics:** SQL analytics, ETL pipelines, dataset construction for ML training, Power BI, AWS QuickSight.
- Cloud & Infrastructure:** AWS (Cloud Practitioner certified); training workflows using cloud compute (EC2), data storage (S3).
- PM Competency:** Agile/Scrum execution, process optimization (Lean Six Sigma Green Belt).

Technical Projects

Researcher | *Linear Algebra and Probability Colloquium, Columbia University*

Fall 2025

Dimensionality Reduction Techniques: A Comparison of Principal Component Analysis and Linear Autoencoding on the MNIST Dataset.

<https://github.com/ay0-aa/PCA-and-Linear-Autoencoders-in-Machine-Learning>

- Implemented PCA and PyTorch linear autoencoder pipelines on MNIST to compare closed-form dimensionality reduction against learned representations across latent dimensions; evaluated reconstruction MSE, convergence behavior, explained variance, principal angles, Grassmann distance, and downstream classification performance. Analyzed cases where linear autoencoders achieved low reconstruction error while diverging from PCA-aligned subspaces, using representation similarity metrics to study when task performance can conceal unstable or misaligned learned features.

CNN vs. ViT: Vision Model Selector | <https://github.com/ay0-aa/cnn-vs-vit-model-selector>

- Built and trained custom residual CNN and compact ViT models (~1M parameters each) from random initialization on CIFAR-100, implementing self-attention and Transformer blocks directly in PyTorch. Ran a reproducible three-seed Colab/T4 evaluation across clean accuracy, confidence calibration, Gaussian-noise robustness, and inference latency. The CNN led clean accuracy by 5.34 points, while the ViT was better calibrated and 7.87 points more accurate under noise, informing model selection across quality, reliability, and deployment constraints.

Additional Work Experience

Amazon - Program Operations Management, L1 - L6 (03/2019 - 01/2023)

- Promoted from frontline operations to regional L6 leadership within four years, leading cross-site process improvement, rollout, and change-management programs; established operating mechanisms that standardized execution, surfaced defects, and sustained adoption across Amazon's fulfillment network.

Leadership & Activities

Columbia AI Alignment Club (CAIAC)

New York, NY

Facilitator / Research Member | *Technical and Policy Fellowship*

Fall 2025 - Present

- Facilitate an eight-week Columbia AI Alignment Club technical fellowship covering RLHF, goal misgeneralization, mechanistic interpretability, scalable oversight, and alignment evaluations; develop prompts and exercises that require fellows to identify failure modes, propose evaluations, and reason about model behavior under distribution shift, proxy objectives, and oversight limits.

Columbia Space Initiative (CSI) | <https://github.com/columbiaspace>

New York, NY

Product Developer | *SUITS Team UI and Artificial Intelligence Assistant (AIA)*

Fall 2025 – Present

- Product developer for Columbia Space Initiative's NASA SUITS (Spacesuit User Interface Technologies for Students) 2025–26 effort, supporting end-to-end delivery of the astronaut-facing AR HUD and Artificial Intelligence Assistant (AIA) on the Magic Leap 2.

Center for Sustainable Development, The Earth Institute | Columbia University

New York, NY

Modeling Participant | *United Nations Peace Games Simulation, Fall 2025*

Strategy Lead | *The Climate Game Simulation, Spring 2025*

- Applied game-theoretic reasoning, scenario analysis, and multi-actor incentive modeling in Columbia-led Peace Games and Climate Game simulations, using game-theoretic frameworks to evaluate how incentive structures, coordination failures, and institutional constraints affect safe outcomes in high-stakes multi-agent systems.

Volunteer Work

- Local Coordinator | **Amnesty International** | NYC Local Groups Group 9 and 280.
- Protest Monitor / Tech Policy Consultant / Local Organizer | **NYCLU – ACLU of New York**.
- Idea Pitch Mentor / Student Mentor | **BUILD NYC**.

Languages

- English (Native), French (Fluent), Yoruba (Native), Spanish (Intermediate), Mandarin (Beginner).