# Abdoulay Lashley

(301) 412-0932 ● abdoulay.lashley@gmail.com ● [abdoulaylashley.com](abdoulaylashley.com) ● [LinkedIn](LinkedIn)

## EDUCATION

**University of Maryland, Robert H. Smith School of Business**                                      **College Park, Maryland**
**Master of Science in Information Systems**, GPA: 3.7                                      August 2024 – December 2025
- **Relevant Coursework:** Data Mining & Predictive Analytics, Designing Generative AI Systems, AI for Business Applications, Data Processing, Analysis & Modeling, Database Management, Causal Inference & A/B Testing, Data Visualization, Cloud Computing, Project Management, Industry Practicum
- **AWS Academy Graduate** – Cloud Architecting & Machine Learning Foundations (Certificate), 2025
- **Terrapin Scholar** – University of Maryland, 2024–2025 | **Dean's List** – 2020–2021, 2022–2023, 2024–2025

**University of Maryland, A. James Clark School of Engineering**                                      **College Park, Maryland**
**Bachelor of Science in Bioengineering**, GPA: 3.2                                      August 2018 – May 2023

## TECHNICAL SKILLS

**Programming & Data Engineering:**
Python, SQL, JavaScript, Typescript, JSON, Spark, PySpark MLlib, Hadoop, Hive, MapReduce, Node.js, Express.js, Next.js, Tailwind CSS, Data Wrangling, REST APIs

**Machine Learning & AI Applications:**
AI/ML, NLP, LLMs, OpenAI API, Scikit-learn, Pandas, Seaborn, Regression & Classification, Cluster Analysis, Model Evaluation, Ethical AI Practices

**Databases & Cloud Technologies:**
AWS(EC2, S3, RDS, SageMaker, Lambda, Glue, CloudFormation, IAM), Azure, GCP, Vercel CDN, MySQL, NoSQL, MongoDB, Neo4J, Snowflake, BigQuery, Data Lakes & Pipelines

**Business Intelligence & Visualization:**
Power BI, Tableau, React.js, Leaflet.js, Google Analytics, Dashboard Development, Data Storytelling, Lighthouse, Chrome DevTools,

**Project & Product Management:**
Agile, SCRUM, JIRA, Confluence, Risk Management, QA Oversight, Product Roadmapping, Microsoft Project, Figma (UX/UI Design)

**Software & Tools:**
SAP, ETQ, Flexnet, Solvace, VSCode, Git/GitHub, Microsoft Office, Google Workspace, AutoDesk Fusion 360, AutoCAD, SolidWorks, Lucidchart, Apache Kafka, Sqoop, Spark GraphFrames

**Biotechnology & Laboratory Techniques:**
Imaging & Microscopy, Chromatography, Gel Electrophoresis, ELISA, DNA Extraction & Purification, CRISPR Gene Editing, Rheology, Bacterial & Mammalian Cell Culture, Organic & Inorganic Synthesis, Titration, Extraction, Distillation, Solubility Testing

**Computational Biology & Data Analysis:**
Python, MATLAB, R, Jupyter, Biostatistics, Data Visualization, Signal Processing, VMD, Mathematica, GUI Development, Statistical Modeling, Experimental Design

**Manufacturing & Quality Systems:**
cGMP & GDP Compliance, Equipment Validation & Testing, Process Optimization, SOP Development, Quality Assurance & Reporting, Regulatory & Materials Management, Cross-Functional Collaboration

## WORK EXPERIENCE

**L'Oréal USA**                                      **Somerset, New Jersey**
**Industrial Quality CO-OP** – *Product Launch, Data Visualization & Analysis, Process Improvement*                      June 2023 – August 2024
- **Designed** and **rolled out** eCLAIR digital product, building consensus across QA, operators, and engineering teams, **reducing micro-contamination incidents by 20%**.
- **Digitized 25 production forms**, **streamlining accessibility** for line operators and **reducing documentation errors by 30%**, enhancing **operational efficiency** and **regulatory compliance**.
- **Built** Power BI dashboards that **boosted efficiency by 15**% and **cut downtime by 10%**, presenting insights to **senior leadership** to align stakeholders on data-driven decisions.

## PROJECT EXPERIENCE

**Veteran Sentiment Analysis Platform – Deloitte GPS |** *AWS, Python, NLP, Power BI*                      January 2025 - December 2025
- **Led a Deloitte-sponsored MSIS Capstone** to develop a **cloud-based NLP** system analyzing **100K+ Veteran social posts** to identify key themes in mental health, financial well-being, and reintegration.
- **Built** an end-to-end **AWS data pipeline** integrating **S3**, **Lambda**, **Glue**, and **OpenSearch** to automate ingestion and classification, enabling **real-time sentiment** tracking across **10+ thematic categories**.
- **Delivered Power BI** dashboards and LLM insights that enhanced Deloitte GPS's ability to advise Veteran Service Organizations on outreach strategies, improving **interpretability** and **decision accuracy by 25%**.

**Full-Stack Product Management Bootcamp (Certificate)** – *Product Strategy, User Research*                      September 2025 - October 2025
- Earned a **certificate** of completion from **Leland** for a 6-session intensive program on end-to-end product management, completing **10+ applied case studies and product challenges** simulating real-world PM scenarios.
- Applied frameworks for **roadmapping**, **PRD creation**, and KPI-driven prioritization, improving feature **decision accuracy** and **trade-off clarity**.

- Improved stakeholder communication and presentation impact by 25% through live workshops and peer feedback.

**Generative AI Dynamic Travel Itinerary Planner** – *Python, OpenAI API, FastAPI, JavaScript*      October 2025
- **Designed** and **developed** a **Generative AI travel planner** that generated **personalized day-by-day** itineraries using **real-time flight, event, and weather data** combined with user preferences such as budget, interests, and trip length.
- **Integrated** the **OpenAI API with Python (FastAPI) backend** and an interactive **HTML/CSS/JavaScript frontend**, enabling natural-language trip modifications like "add more food options" or "reduce my budget."
- **Contributed to LLM prompt design** and **orchestration**, ensuring contextual accuracy, ethical use, and transparent explanations, demonstrating a **scalable, user-centric AI application** that improved trip personalization efficiency by **~30% in testing**.

**NBA Team Performance Evolution** – *Tableau, Python, nba_api, Data Visualization*      October 2025
- Built an interactive Tableau story analyzing a decade of NBA team performance (2014–2024) using data engineered in Python from the official NBA Stats API.
- Developed custom metrics for Offense Index, Defense Index, and Top Teams Metric, ranking 30 franchises by efficiency balance to uncover patterns behind championship success.
- Designed 3 dynamic dashboards and 1 supplemental analytics page, integrating calculated fields, LOD expressions, and geographic mapping to visualize the NBA's transition into the pace-and-space era.

**Personal Portfolio v4** – *Next.js, React, Tailwind, TypeScript, Vercel*      September 2025
- **Built** and **deployed** a fully responsive portfolio with **10+ reusable components**, a multi-format asset viewer (images, PDFs), and smooth-scroll navigation.
- **Optimized** performance (**95+ Lighthouse score**, <200ms TTFB on Vercel CDN) and accessibility (100/100), ensuring **modern** and **inclusive UX/UI**.
- **Designed** modular architecture for quick project additions, cutting **update time by 70%** and boosting **engagement in testing by ~30%**.

**LAPD Crime Prediction & Analysis** – *PySpark, Random Forest, MLlib*      May 2025
- **Built** a scalable PySpark pipeline to analyze 2M+ crime records (2023–2025) for type **classification**, **hotspot detection**, and **spatiotemporal pattern clustering**.
- **Achieved 88.79% top-5 accuracy** using a **Random Forest model** tuned with **CrossValidator** and **grid search**, integrating **StringIndexer**, **OneHotEncoder**, and **VectorAssembler** for preprocessing.

**Spotify Product Personalization & AI Recommendations** – *Product Strategy & Data Analytics*      May 2025
- **Conducted product strategy analysis** on Spotify's AI-driven personalization features, identifying key metrics to enhance user retention and content discovery.
- **Proposed** data-driven recommendations to optimize recommendation systems using hybrid collaborative filtering and **user clustering insights**.
- **Designed UX mockups** and **KPI dashboards** demonstrating how AI integration can **improve** engagement across **global markets**.

**Capital Area Food Bank AI Assistant** – *React.js, Node.js, OpenAI API, OpenCageData API, JavaScript, JSON*      April 2025
- **Led end-to-end development** of a multilingual AI chatbot for food-insecure neighbors in the **DC metro area**, enabling users to locate and filter **500+ food resources** by ZIP code or location, while addressing barriers like confusing maps, language gaps, transportation access, service requirements, and social stigma using **GPT-3.5** and **geospatial intelligence**.
- **Built** a responsive dark-mode front-end with React.js featuring map-based food bank pins and interactive site cards displaying address, open hours, and service information.
- **Developed** backend RESTful APIs with Node.js/Express.js and OpenCageData API, achieving **>90% match accuracy** and **reducing query latency by 40%** by optimizing JSON schema design and geolocation handling.
- **Cleaned and unified 6+ CAFB datasets** using JavaScript to merge appointment requirements, food format, cultural services, and transportation access metadata into a streamlined structure.
- **Enhanced accessibility** with a custom TranslationService supporting **dynamic English-Spanish language switching** and fallback to GPT for non-location-based queries, significantly improving engagement among **Spanish-speaking users**.

**Buccal Pulse Oximeter to Overcome Racial Biases** – *Python, MATLAB, Arduino*      May 2023
- **Led** a team of five to develop a **buccal pulse oximeter**, reducing **racial biases** in oxygen saturation measurement by **20%** using advanced **sensor technology** and **signal processing**.
- **Developed and optimized** data analysis in **Python and MATLAB**, achieving **95% measurement accuracy** while maintaining **production costs under $40 per unit**.
- **Demonstrated** the prototype to **20+ clinicians and engineers**, validating its **effectiveness in clinical trials**.

---

## AFFILIATIONS & ADDITIONAL INFORMATION
- **Member** – Black Engineers Society, National Society of Black Engineers (NSBE)

- **Languages –** Fluent in English and Wolof; basic proficiency in French