# Jasmine Christopher

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## Education

**Master of Science in Data Science** — GPA: 3.6/4.0
*Indiana University - Bloomington, USA* — *August 2024 – Present*

## Work Experience

**AI/ML Research Intern** — June 2025 – Present
*riAI Capital Ltd - Remote* — *San Francisco, California*

- Led a cross-functional team in designing and engineering end-to-end data pipelines and RAG systems for automated Investment Policy Statement (IPS) generation using Mistral models, LangChain, FAISS/Pinecone, and hybrid retrieval, reducing advisor prep time by 70%.
- Developed a real-time tax optimization engine with Llama-3, LangGraph, and Kafka streaming, delivering context-aware, explainable insights from financial records and improving advisor decision speed by 40%.
- Integrated third-party financial platforms (Wealthbox, RightCapital, Schwab, Black Diamond) into a microservices-based backend with a GraphQL API gateway, securely scaling to 200K+ monthly API requests.
- Implemented zero-trust data governance with IAM, AES-256 encryption, and centralized audit logging, ensuring SOC2 and GDPR-compliant access across financial data workflows.

**Software Engineer** — January 2023 – June 2024
*Mindsprint* — *Chennai, India*

- Spearheaded and delivered MESlite, a .NET Core + Angular Manufacturing Execution System on AWS (EC2, RDS), enabling real-time production monitoring, secure access, and analytics dashboards.
- Automated XML-to-relational ETL pipelines in C# and .NET using AWS Lambda and RDS, with S3 staging and CloudWatch monitoring.
- Redesigned the data pipelines using REST APIs for ERP integration and gRPC + AsyncAPI for SCADA, enabling near real-time data exchange between machines and cloud-based backend services.
- Built 30+ real-time reports and interactive dashboards using Power BI and Angular visualizations, connected to AWS-hosted data sources, reducing manual reporting overhead by 40% and enabling KPI-driven decision-making.
- Enhanced system security with MFA and role-based authorization in .NET and Angular, aligning with enterprise security practices.
- Collaborated with cross-functional teams in Vietnam to define requirements and drive MESlite adoption, improving production efficiency.

## Projects

*AI Research Agent*

- Designed a multi-agent research pipeline leveraging LangChain, LangGraph, Pinecone, and BigQuery to autonomously ingest, process, and analyze 10k+ research papers, with human-in-the-loop workflows for scalable hypothesis generation.
- Engineered five specialized agents with integrated OpenAI and HuggingFace for retrieval-augmented generation, and applied Pylint reducing manual research time by 6,000+ hours through automated insight synthesis.

*E-Commerce Platform*

- Developed and deployed a production-grade e-commerce system (authentication, cart, orders, payments, inventory) using AWS RDS, DynamoDB, SQS, S3, and containerized microservices orchestrated with Kubernetes and Terraform.
- Boosted system reliability by 40% through Saga pattern-based distributed transactions, hybrid relational and NoSQL storage, and chaos engineering for resilience under failure conditions.

*Kidney Disease Prediction Model*

- Architected an end-to-end ML workflow for CKD prediction with preprocessing, feature scaling, and model comparison across Logistic Regression, Decision Tree, Random Forest, and XGBoost; achieved 0.98 AUC and strong generalization on unseen data.
- Analyzed model feature importance and medical correlations to identify key predictors such as serum creatinine, albumin, and hemoglobin levels, providing insights to support early detection and physician decision-making.

## Technical Skills

**Programming Languages**: Python, Java, C#, C, SQL, TypeScript

**ML & AI**: GenAI on AWS - Bedrock (Agents/Guardrails/KBs), SageMaker (endpoints Pipelines), Kendra/OpenSearch RAG, LangGraph/LlamaIndex/LangChain; vector DBs (pgvector/Pinecone/FAISS), Transformer architectures (BERT, GPT, T5, CLIP, Hugging Face), Deep Learning (PyTorch, TensorFlow, JAX), XAI

**Data Engineering & Workflow Orchestration**: Apache Kafka, Apache Spark (PySpark), Hadoop (HDFS, MapReduce), Snakemake, BigQuery, ETL/ELT Pipelines, Data Lakes/Warehouses, Data Modeling, Data Processing, Git

**Cloud & DevOps**: AWS, Kubernetes, Docker, Terraform, CI/CD (GitHub Actions, Jenkins)

**Databases & Analytics**: SQL Server, PostgreSQL, MySQL, Tableau, Power BI, SSRS

**Full-Stack Development**: Angular, React, HTML5, CSS/SCSS, Bootstrap, D3.js, Chart.js, Node.js, .NET Core, FastAPI, REST

## Certifications

*AWS Certified Cloud Practitioner* — *AWS Certified Developer Associate* — *Microsoft Certified: Azure AI Engineer Associate*