# Ibe Mohammed Ali

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## EDUCATION

**Georgia State University**                                                                                                               **Atlanta, GA**
**B.S of Computer Science (Concentration in Data Science)**                                                              **May 2027**
**B.S of Mathematics**
**Relevant Coursework:** Data Structures and Algorithms, Systems Level Programming, Computer Architecture, Design & Analysis of Algorithms, Operating Systems, Fundamentals of DSCI, Discrete Mathematics, Linear Algebra, Applied Probability and Statistics.
**Honors:** Omega Nu Lambda, President's List, UGAHacks 2022.

## CERTIFICATIONS/ EXAMS AND PROGRAM SKILLS

Languages: Python, C++, Java, JavaScript, TypeScript, SQL, HTML/CSS, R
Frameworks: React.js, Node.js, Express.js, PyTorch, TensorFlow, Scikit-learn, Docker, Kubernetes, AWS (Lambda, S3, EC2, Cognito), Linux/Unix
Tools Git/GitHub, PostgreSQL, MongoDB, REST APIs, OAuth2/OpenID Connect, Pandas, NumPy, OpenCV, Jupyter Notebook

## WORK EXPERIENCE

**Software Engineer**                                                                                                                      **Atlanta, GA**
*Zoku*                                                                                                                           **August 2025 - Present**
- Migrated backend services to AWS (EC2, RDS, S3, CloudFront), reducing infrastructure costs by 25% and improving performance and load times by 40% across core features.
- Built and deployed scalable full-stack features using TypeScript and AWS, driving increased engagement and growing the platform to 100+ weekly active users.
- Optimized frontend-backend communication by redesigning API integrations, reducing latency by 30% and improving responsiveness of frequently used workflows.
- Resolved 50+ stability and performance issues and introduced proactive monitoring, significantly improving platform reliability and user satisfaction.
- Collaborated with designers and engineers to refine UI and accessibility through CSS and component enhancements, improving consistency across devices and layouts.
- Contributed to agile sprint planning and execution, aligning requirements with product goals and ensuring 100% on-time delivery of planned releases.

## PROJECTS

**oneTouch | Python, Deep Learning, Computer Vision - Demo**
- Built a real-time football analytics system using YOLOv8 for player, referee, and ball tracking, reaching 95% detection accuracy in complex match broadcasts.
- Implemented jersey color segmentation with KMeans clustering to enable automated team assignment and advanced metrics such as possession, sprint speeds, and pass networks.
- Performed model benchmarking to balance accuracy and GPU utilization, improving inference speed by 13% while preserving robust detection quality.
- Applied homography estimation to map players to a 2D pitch coordinate system, unlocking spatial analysis and tactical insights from minute-long video segments.
- Modularized and containerized the pipeline for scalable deployment, reducing system latency by 25% and enabling GPU-accelerated execution across machines.
- Established evaluation pipelines with curated ground-truth clips, reporting precision/recall and MOTA to validate tracking reliability.

**riskNeutral | JavaScript, TypeScript, Next.js, Full-Stack Web, C++ - Demo**
- Built an AI-powered, real-time options trading and risk analysis platform using serverless Edge API routes, delivering sub-50 ms end-to-end trade risk evaluation for live submissions.
- Engineered a deterministic, regime-aware risk engine using Greeks computation, statistical regime detection, and Monte Carlo stress testing, processing each trade through a 5-step analytics pipeline with <50 ms total latency.
- Designed and exposed a reusable, API-first risk evaluation service using typed REST endpoints, enabling external consumers to submit trades and receive standardized pricing, Greeks, and risk scores programmatically.
- Integrated live market data ingestion using Alpha Vantage with TTL-based caching and resilient fallback logic, supporting real-time options pricing and Greeks while reducing redundant external API calls by ~90%.
- Developed interactive options chain and risk visualization dashboards using React and Chart.js, allowing users and downstream tools to analyze exposure, volatility sensitivity, and tail risk in real time.
- Optimized system performance by leveraging edge caching, code splitting, and bundle minimization, achieving ~92 KB production bundles, <100 ms global first load, and Lighthouse scores of 95+.

## LEADERSHIP AND INVOLVEMENT

**Director of Technology - PROGgsu.com**                                                                                 **Atlanta, GA**
*Technical Director*                                                                                                        **July 2025 - Present**
- Led migration of club resources to a centralized cloud repository, improving accessibility for 500+ members and reducing developer onboarding time by 25%.
- Organized and taught bi-weekly technical interview workshops attended by 200+ students, improving readiness for software engineering internships.
- Launched weekly Startup Nights bringing together 50+ aspiring founders to pitch ideas, form teams, and build early-stage projects.
- Built analytics dashboards to track attendance, skill growth, and project outcomes, enabling data-driven planning across an 8-member executive team.
- Improved club infrastructure with caching and hosting enhancements, boosting website performance by 35% and increasing engagement with learning resources.
- Established standardized GitHub workflows and coding guidelines, increasing development efficiency by 40% and reducing merge conflicts and regression issues.