

Kevin Williams

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GitHub: <https://github.com/whitemask-1> | Portfolio: <https://d2hp309s7roz8n.cloudfront.net>

Education

Florida State University — Tallahassee, FL (Sophomore)
Bachelor of Science in Statistics | Minor in Computational Science

Expected Graduation: May 2028
GPA: 3.3

Certifications

AWS Certified Solutions Architect – Associate (SAA-C03)

Achieved Jan 2026

Validation Number: 743938e78c0642308b5c1263acb9f7c9

Projects/Outside Experience

Black-Scholes Pricing Engine – Quantitative Developer

- Architected a modular pricing engine to calculate values for European call and put options using the **BSM Model**
- Developed algorithms to derive “**The Greeks**” (Delta, Gamma, Vega, Theta, and Rho) enabling real-time sensitivity analysis of option prices to market volatility and time decay
- Implemented core financial logic using **NumPy** and **SciPy** to handle cumulative distribution functions (CDF) and complex algebraic operations for high-precision outputs

News Analytics Platform – Data/Infrastructure Engineer

- Architected and deployed a serverless **ETL** pipeline on AWS ingesting articles from NewsAPI, processing 100+ articles daily with 30-50% storage reduction through **Redis** deduplication and **Parquet** compression (2-3x smaller than JSON)
- Reduced infrastructure costs by 70% through a migration from **ECS Fargate** (\$27/month fixed cost) to **Lambda** containers (\$7-15/month usage-based) while enabling auto-scaling from 0-1000+ concurrent requests
- Deployed event-driven architecture using Infrastructure as Code (**Terraform**) with **SQS** message queuing, **API Gateway**, **Eventbridge** for scheduled triggers, and **CloudWatch** monitoring across 15+ AWS services

CloudFront Hosted Portfolio Website – Full Stack Engineer

- Designed and deployed a cloud-native static portfolio website with **CloudFront** CDN for global content delivery with sub-100ms latency, **S3** for cost-effective object storage, and **ACM** for SSL/TLS certificate management
- Achieved operational cost of under \$1 per month by utilizing CloudFront caching and serverless architecture while implementing an automated **CI/CD** deployment pipeline with **GitHub Actions**

Skills

Cloud/Infrastructure: AWS (SAA-C03), Terraform, Docker, GitHub Actions (CI/CD), CloudFront, Route53, S3, VPC

Software Engineering: Python (FastAPI, Pydantic, PyTest), Git, APIs, Event Driven Architecture

Data Engineering/Analytics: Redis Upstash, SQL, Parquet, ETL Pipelines, Pandas, SciPy, NumPy

Quantitative Finance: Black-Scholes-Merton, Sensitivity Analysis (Greeks), Stochastic Modeling, Risk Management

Work Experience

1 Five 3 Electric - Electrical Apprentice (Residential & Commercial).

Pittsboro, NC | Summer 2025

- Translated electrical blueprints and technical specs into physical installations across residential and commercial projects
- Executed high-precision wiring and circuit installations under strict safety protocols

Aquatic Management Group - Lifeguard

Raleigh, NC | June 2021 – August 2023

- Monitored high-risk aquatic environments requiring adherence to strict safety protocols
- Coordinated with team members during incidents, emphasizing communication and rapid response time