KU Grader Tool - AWS Cost Analysis

Serverless Essay Grading Application

Executive Summary

Total Monthly Cost: $45.98
Annual Projection: $551.7
Analysis Date: 2025-08-21 16:46:32
Region: US East 1 (Virginia)

Detailed Cost Breakdown

Service	Monthly Cost	Details
API Gateway	$0.0352	10,050 REST API requests
AWS Lambda	$1.652	Rubric: 50 invocations, Grading: 10,000 invocations
Amazon Bedrock (Nova Pro)	$41.96	Input: 20,150,000 tokens, Output: 8,075,000 tokens
DynamoDB	$1.2526	Reads: 10,000, Writes: 50, Storage: 5GB
Amazon S3	$0.4654	Storage: 20GB, PUT: 10,000, GET: 1,000
Data Transfer	$0.36	5GB outbound (4GB billable)
CloudWatch Logs	$0.25	0.5GB log ingestion
TOTAL	**$45.98**	

Top 3 Cost Drivers

1. Amazon Bedrock (Nova Pro): $41.96
2. AWS Lambda: $1.652
3. DynamoDB: $1.2526

Cost Optimization Recommendations

1. **Bedrock Optimization:** Implement token caching and batch processing to reduce API calls

2. **Lambda Optimization:** Consider provisioned concurrency for consistent workloads and optimize memory allocation

3. **DynamoDB Optimization:** Monitor usage patterns and consider switching to provisioned capacity if usage becomes predictable

Architecture Notes

• Regional deployment in US East 1 for optimal performance and cost
• On-demand billing for development environment flexibility
• Standard encryption at rest across all services
• Batch processing capability for peak academic periods