CI/CD Deployment of Gaussian Process Time Series Models

Components:
- AWS S3
- AWS ECR
- AWS CodeBuild
- AWS CodePipeline
- AWS Lightsail
- AWS CloudWatch

Note:
The Cost Breakdown as of November 4, 2025. The costs might get updated by AWS Cloud as per their latest pricing change. The pricing may vary depending on the AWS region where the services are created. We recommend visiting the official AWS pricing page to check the current cost of the services to come up with updated guesstimates.

AWS Services Cost: https://aws.amazon.com/pricing

Cost Breakdown:

Components	Description	Usage	Estimated Cost
Storage	AWS S3 to Store Data Files and Codepipeline Artifacts	Example: 10 GB total (data files + artifacts)	~$0.23 / month ($0.023 × 10 GB)
Docker Image Storage	AWS ECR to store Docker Images	3–5 images (~500 MB each)	~$0.05 / month (minimal storage + free first 500 MB)
Containerization	AWS Codebuild to build and package Docker images	~100 build minutes per month using arm1.medium	~$0.50 / month (100 × $0.005)
Deployment	AWS CodePipeline automates the CI/CD deployment process	One active pipeline connected to a GitHub repository	~$1.00 / month
Compute Resources	AWS lightsail to host the deployed ML App	1 vCPU, 2 GB RAM, 20 GB	≈ $10.00 / month

Notifications	AWS SNS to send notifications to the QA or testing team after staging build is done	Up to 15 notifications per month (far below 1 M free tier limit)	$0.00 / month (within free tier)
Monitoring	AWS CloudWatch collects logs and metrics	5 GB of logs + 100 custom metrics	~$5.00 / month

Total Estimated Cost: If a Flask-based ML API container on AWS Lightsail with CI/CD is running after the deployment via CodePipeline and CodeBuild:

Cost = (S3 $0.008 + ECR $0.0016 + CodeBuild $0.016 + CodePipeline $0.033 + AWS Lightsail $0.33 + AWS SNS $0.00 + CloudWatch $0.167 + Data Transfer $0.03)
 = ~$0.58/day (approximate cost)

Note:

- We recommend monitoring AWS Services and deleting those that are not in use after project execution, whether they were created using the UI or Terraform.
- These are purely estimated costs of the services. The actual charges may vary depending on several factors, such as usage duration, service configuration, and region. Please note that these are only estimates; the actual cost will depend on how the services are utilized.