MMM Trainer
Cost Estimates & Technical Requirements

Summary for Self-Hosted Deployment

Cost & Requirements Summary

January 12, 2026

1 Cost Estimates

All costs are based on actual production measurements using Google Cloud Platform services in the `europe-west1` region. Costs are billed per-second for compute resources.

1.1 Training Job Performance

Workload	Iterations × Trials	Duration	Cost/Job	Use Case
Test Run	200 × 3 = 600	0.8 min	$0.01	Quick validation
Benchmark	**2,000 × 5 = 10K**	**12 min**	**$0.20**	**Standard testing**
Production	**10,000 × 5 = 50K**	**80-120 min**	**$1.33-$2.00**	**Production runs**
Large Production	10,000 × 10 = 100K	160-240 min	$2.67-$4.00	High-quality runs

Table 1: Training job durations and costs (8 vCPU, 32GB RAM configuration)

Note: Benchmark runs (12-18 minutes) are ideal for experimentation and testing. Production runs (80-120 minutes) provide more thorough model exploration and are recommended for final models.

1.2 Monthly Cost Scenarios

Usage Level	Web Calls	Training Jobs	Benchmark Cost	Production Cost
Light	100	10	$4	$15-22
Moderate	500	50	$12	$69-102
Heavy	1,000	100	$22	$135-202
Very Heavy	5,000	500	$102	$667-1002

Table 2: Monthly cost estimates by usage volume

1.3 Cost Breakdown

Fixed Monthly Costs (˜$2/month):

- GCS storage: $0.50-$2.00 (depends on data retention)
- Secret Manager: $0.36 (6 secrets × $0.06)
- Cloud Scheduler: $0.30 (covered by free tier)
- Artifact Registry: $0.50 (container images)

Variable Costs (per usage):

- Training jobs: $0.20 (benchmark) to $1.33-$2.00 (production) per job
- Web service: ˜$0.002 per request (negligible)
- Snowflake: Separate (depends on warehouse size and queries)

Key Cost Drivers:

- Training jobs account for 90-99% of total costs at scale

- Faster machines have similar costs due to per-second billing
- Storage costs are minimal with lifecycle policies
- Network egress charged only for downloads outside GCP region

2 Minimum Technical Requirements

2.1 Required Skills and Knowledge

2.1.1 Essential Skills

- **Google Cloud Platform:**
  - Basic understanding of Cloud Run, GCS, and IAM
  - Ability to navigate GCP Console
  - Understanding of billing and cost management
- **Infrastructure as Code:**
  - Basic Terraform knowledge for infrastructure changes
  - Ability to read and modify Terraform configuration files
- **Version Control:**
  - Git and GitHub workflows
  - Understanding of CI/CD concepts
- **Container Technology:**
  - Basic Docker concepts
  - Understanding of container registries

2.1.2 Recommended Skills

- **Programming Languages:**
  - Python (for Streamlit application modifications)
  - R (for Robyn MMM customizations)
- **Data Warehouse:**
  - Snowflake query optimization
  - SQL for data extraction
- **Monitoring and Debugging:**
  - Cloud Logging for troubleshooting
  - Performance monitoring and optimization

2.2 Required Tools

2.3 Access Requirements

2.3.1 Google Cloud Platform

- **For Monitoring:** Viewer role
- **For Deployments:** Editor or specific roles:
  - Cloud Run Admin
  - Storage Admin
  - Secret Manager Admin
  - Service Account Admin
- **For Debugging:** Logs Viewer, Monitoring Viewer

Tool	Version	Purpose
Google Cloud SDK	Latest	GCP CLI operations
Terraform	$\geq 1.5.0$	Infrastructure management
Docker	Latest	Container testing (optional)
Git	Latest	Version control
Python	≥ 3.11	Local development (optional)

Table 3: Required development tools

2.3.2 GitHub Repository

- **For Development:** Write access
- **For Releases:** Maintain or Admin access
- **For Secrets Management:** Admin access

2.3.3 Snowflake

- Read access to source data tables
- Access to a dedicated warehouse for queries
- Appropriate role (not ACCOUNTADMIN in production)