

3. Cost Tables

3.1 Personnel Costs

Assumptions:

- Project duration: 16 weeks (excluding optional MLOps phase).
- Hourly rates based on industry averages.

Table: Personnel Costs

Role	Quantity	Hourly Rate	Hours/Week	Weeks	Total Hours	Total Cost
Engineering Manager	1	\$120	40	16	640	\$76,800
Data Engineer	2	\$100	40	16	1,280	\$128,000
ML Engineer	2	\$110	40	16	1,280	\$140,800
DevOps Engineer	1	\$105	35	16	560	\$58,800
Trainer	1	\$85	20	4	80	\$6,800

| Total Personnel Cost | \$411,200 |

3.2 AWS Infrastructure Costs

Assumptions:

- Usage estimates are for the 16-week project duration.

Table: AWS Infrastructure Costs

Service	Estimated Usage	Cost per Unit	Total Cost
Compute Services			
EC2 GPU Instances (Training)	2 instances x 8 hrs/day x 60 days	\$24/hour	\$23,040
EC2 Instances (General)	4 instances x 8 hrs/day x 80 days	\$0.40/hour	\$10,240
SageMaker Training Jobs	200 hours of ml.p3.2xlarge	\$3.825/hour	\$765
SageMaker Endpoints	1 endpoint x 24/7 x 16 weeks	\$0.546/hour	\$14,707
Storage Services			
Amazon S3 Storage	50 TB/month x 4 months	\$0.023/GB/month	\$4,600
S3 Data Transfer (Out)	10 TB/month x 4 months	\$0.09/GB	\$3,600
Data Processing Services			
AWS Glue	200 DPUs x 2 hrs/job x 50 jobs	\$0.44/DPU-hour	\$8,800
AWS Lambda	2 million requests/month x 4 months	\$0.20 per million calls	\$1.60
Networking Services			
AWS Direct Connect	Monthly fee + data transfer charges	\$1,000/month	\$4,000
Management & Monitoring			
Amazon CloudWatch Logs	10 GB/month x 4 months	\$0.50/GB ingestion	\$20
AWS CloudTrail	Standard (no additional cost)		\$0
Other Services			
API Gateway	1 million API calls/month x 4 months	\$3.50 per million calls	\$14
Miscellaneous AWS Services	Estimated additional costs		\$2,000

| Total AWS Infrastructure Cost | \$67,787.60 |

3.3 Training Costs

Table: Training Costs

Item	Quantity	Cost per Unit	Total Cost
AWS Online Training Courses	5 users	\$500/user	\$2,500
Onsite Training Workshops	2 days	\$5,000/day	\$10,000
Certification Exam Fees	5 exams	\$150/exam	\$750
Training Materials and Resources			\$1,500

| Total Training Cost | \$14,750 |

3.4 Additional Costs and Contingency

Table: Additional Costs

Item	Total Cost
Software Licenses (if applicable)	\$5,000
Project Contingency (10% of total)	\$48,973
Total Additional Costs	\$53,973

3.5 Total Estimated Project Cost

Summary Table: Total Project Cost

Category	Total Cost
Personnel Costs	\$405,200
AWS Infrastructure Costs	\$67,788
Training Costs	\$14,750
Additional Costs	\$53,973
Grand Total	\$541,711

3.6 Optional MLOps Phase Costs

Assumptions:

- Additional 8 weeks.
- Involves ML Engineers, DevOps Engineers, and additional AWS costs.

Table: Personnel Costs for MLOps Phase

Role	Quantity	Hourly Rate	Hours/Week	Weeks	Total Hours	Total Cost
ML Engineer	2	\$110	40	8	640	\$70,400
DevOps Engineer	1	\$105	35	8	280	\$29,400
Trainer	1	\$85	20	2	40	\$3,400

| Total Personnel Cost (MLOps Phase) | \$103,200 |

Table: AWS Infrastructure Costs for MLOps Phase

Service	Estimated Usage	Cost per Unit	Total Cost
CodePipeline, CodeBuild, etc.	Estimated usage over 8 weeks	\$1,000/month	\$2,000
Additional EC2 Instances	For MLOps tools	\$0.40/hour x 8 weeks	\$5,376
Additional S3 Storage	10 TB/month x 2 months	\$0.023/GB/month	\$460

| Total AWS Infrastructure Cost (MLOps Phase) | \$7,836 |

Total Cost for MLOps Phase:

Category	Total Cost
Personnel Costs	\$103,200
AWS Infrastructure Costs	\$7,836
Total MLOps Phase Cost	\$111,036

3.7 Updated Grand Total Including MLOps Phase

Grand Total with MLOps Phase:

Category	Total Cost
Initial Project Cost	\$541,711
MLOps Phase Cost	\$111,036
Updated Grand Total	\$652,747