Senior Machine Learning Engineer — Training Infrastructure (US)

Company: Amazon

Role family: MLE | Seniority: Senior | Location: United States (role location varies by team)

Source (public posting): https://www.amazon.jobs/en/jobs/2668768/sr-machine-learning-engineer

Cluster demand (ground-truth): {"MLE": 0.7, "SWE": 0.25, "DS": 0.05, "QD": 0.0, "QR": 0.0}

Reconstruction method: normalized sections + paraphrased responsibilities/qualifications for QA use.

ROLE SUMMARY
You will lead engineering work that enables large-scale model training and experimentation. The emphasis is on building stable, efficient training systems and collaborating with scientists/engineers to ship production-ready ML capabilities.

KEY RESPONSIBILITIES
• Build and evolve distributed training infrastructure that scales to large models and GPU/accelerator hardware.
• Develop tooling for data ingestion, feature/label pipelines, and repeatable training runs.
• Improve reliability and performance (throughput, cost, latency) of training and evaluation workflows.
• Establish best practices for reproducibility, model/version tracking, and deployment handoffs.
• Partner across ML, product, and platform teams to define requirements and deliver systems that unblock research-to-production.

REQUIRED QUALIFICATIONS
• 5+ years professional software engineering experience (Python/Java/C++ or similar).
• 3+ years building ML systems or ML infrastructure in production.
• Strong knowledge of distributed systems, debugging, and performance profiling.
• Experience with GPUs/accelerators, containerized compute, and CI/CD for ML.

PREFERRED QUALIFICATIONS
• Experience with large model training and evaluation at scale.
• MLOps patterns: monitoring, drift detection, retraining orchestration, and model governance.