Managed Machine Learning Systems and Internet of Things

Noah Gift

Day 1: Hardware AI and IoT Fundamentals (180 minutes)

Source Code (*Colab Notebooks*):

https://github.com/noahgift/managed_ml_systems_and_iot#colab-noteboks

- Part 1.1 (90 minutes)
  - Hardware AI & Cloud-Native AI Platforms
- Q&A: 15 Minutes
- Break: 15 Minutes
- Part 1.2: (45 Minutes)
  - Edge Machine Learning
- Q&A: 15 Minutes

Poll: Job Role

- **What Type of Job Type Most Closely Identifies To Your Current Role?**
  - Product or Project Management
  - Technical
  - Executive
  - Sales

Poll: Machine Learning Experience

- **What is your experience level with Machine Learning?**
  - Novice (Just getting started or None)
  - Beginner (Have created ML models)
  - Intermediate (1-3 years experience with ML)
  - Advanced (3+ Years experience with ML)

Part 1.1: Hardware AI & Cloud-Native AI Platforms

- TPUs
- GPUs
- FPGAs
- CPUs
- IoT
- Current State of Hardware AI Chips and IoT Technology
- Cloud-Native AI Platforms
- DeepLense Realtime Demo

Q&A: 15 Minutes

Break: 15 Minutes

Part 1.2: Edge Machine Learning

- Intel Movidius Demo (Realtime Edge object detection)
- iOS Core ML Fundamentals

Q&A: 15 Minutes

Day 2: Managed and Auto Machine (180 minutes)

- Part 2.1: (90 Minutes)
  - 2.1: Managed ML on AWS
- Q&A: 15 Minutes
- Break: 15 Minutes
- Part 2.2: (45 Minutes)
  - 2.2: Managed ML on GCP and Azure
- Q&A: 15 Minutes

Poll: Cloud Machine Learning Experience

- **What is your experience level with the Cloud?**
  - Novice (Just getting started or None)
  - Beginner (Have done less than six months of work on it)
  - Intermediate (Regularly use the cloud for ML projects)
  - Advanced (3+ Years Expert Level experience with Cloud ML systems)

Part 2.1: Managed ML on AWS

- AutoML on AWS Overview
- Using AWS Sagemaker
- Operationalizing Sagemaker
- Serverless Sagemaker with Lambda and Chalice
- A/B Testing Sagemaker Models
- AutoML with Amazon Machine Learning Service

Q&A: 15 Minutes

Break: 15 Minutes

Part 2.2: Managed ML on GCP and Azure

- AutoML Overview GCP
- Using ML directly in BigQuery
- GCP AutoML Service
- GCP ML Engine
- Azure ML Studio

Q&A: 15 Minutes