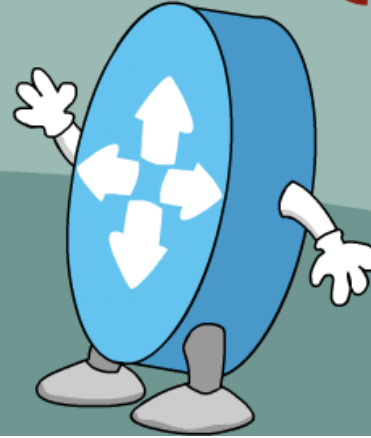# Machine Learning, Artificial Intelligence and their role in networking

Casey Bleeker, ML/AI Fount of Knowledge
Hank Preston, NetDevOps Advocate

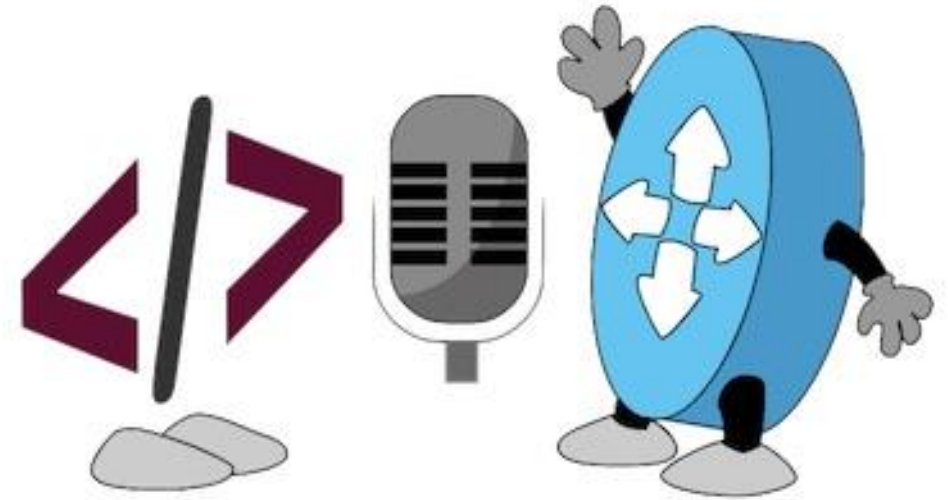Season 1, Talk 12

Twitter: @geekbleek & @hfpreston

https://developer.cisco.com/netdevops/live

What are we going to talk about?

- What exactly is Machine Learning and Artificial Intelligence?

- Where is Cisco's interest and activity in these topics?

- Relevance to me? (network/infrastructure engineers)

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ML/AI… Some hard questions

Concepts

Artificial Intelligence (AI)

The ability for a machine to perform a task characteristic of human intelligence

Machine Learning (ML)

The ability for a machine to complete a task without being explicitly programmed to do so
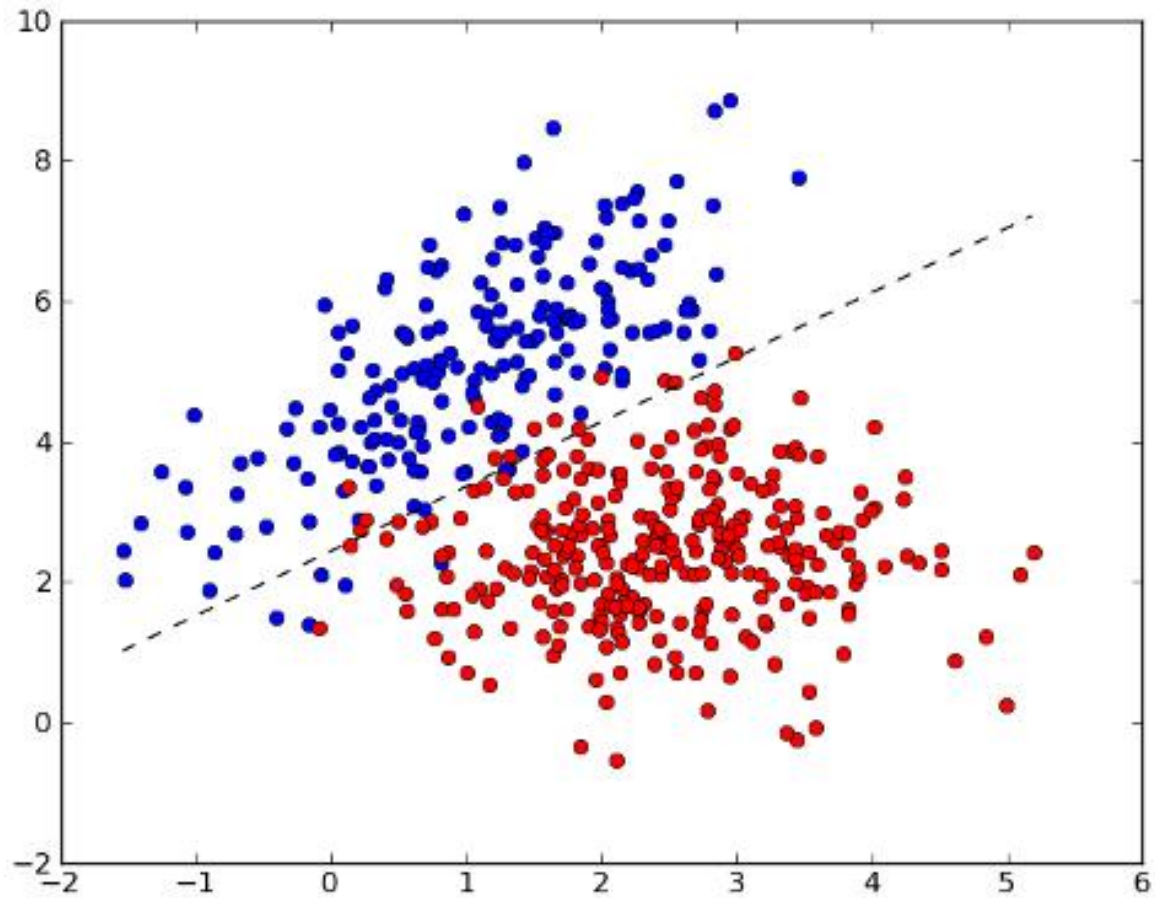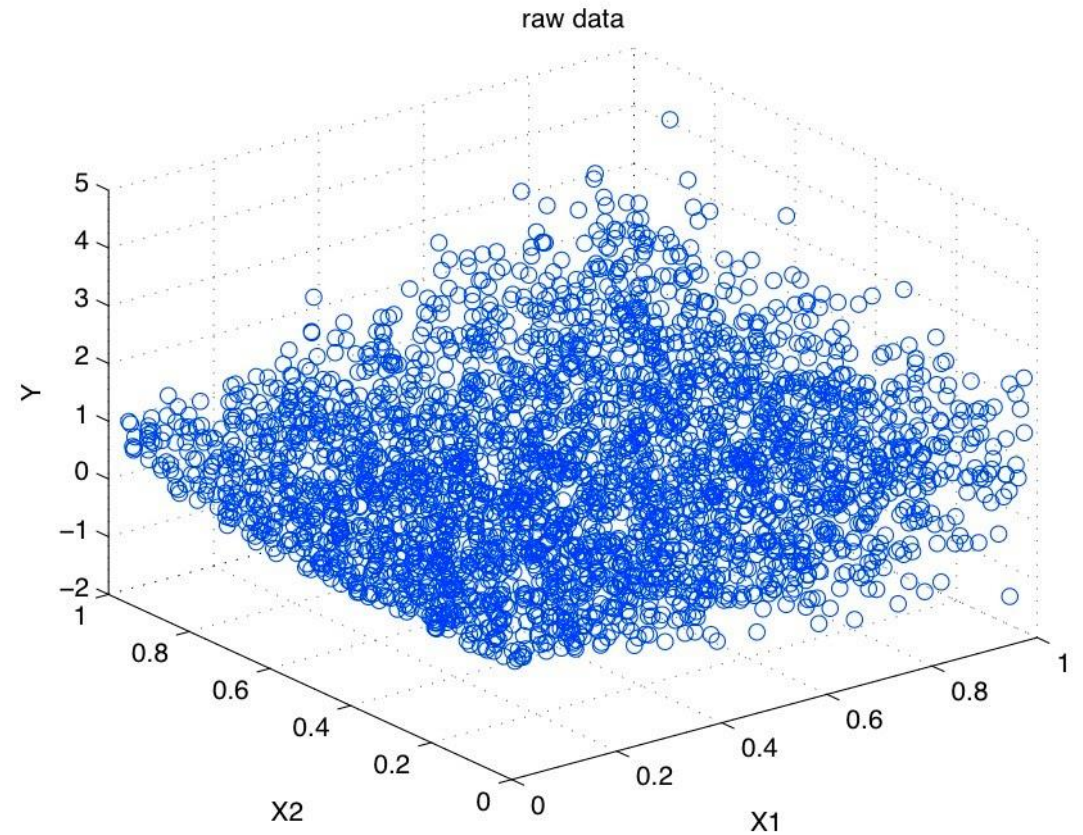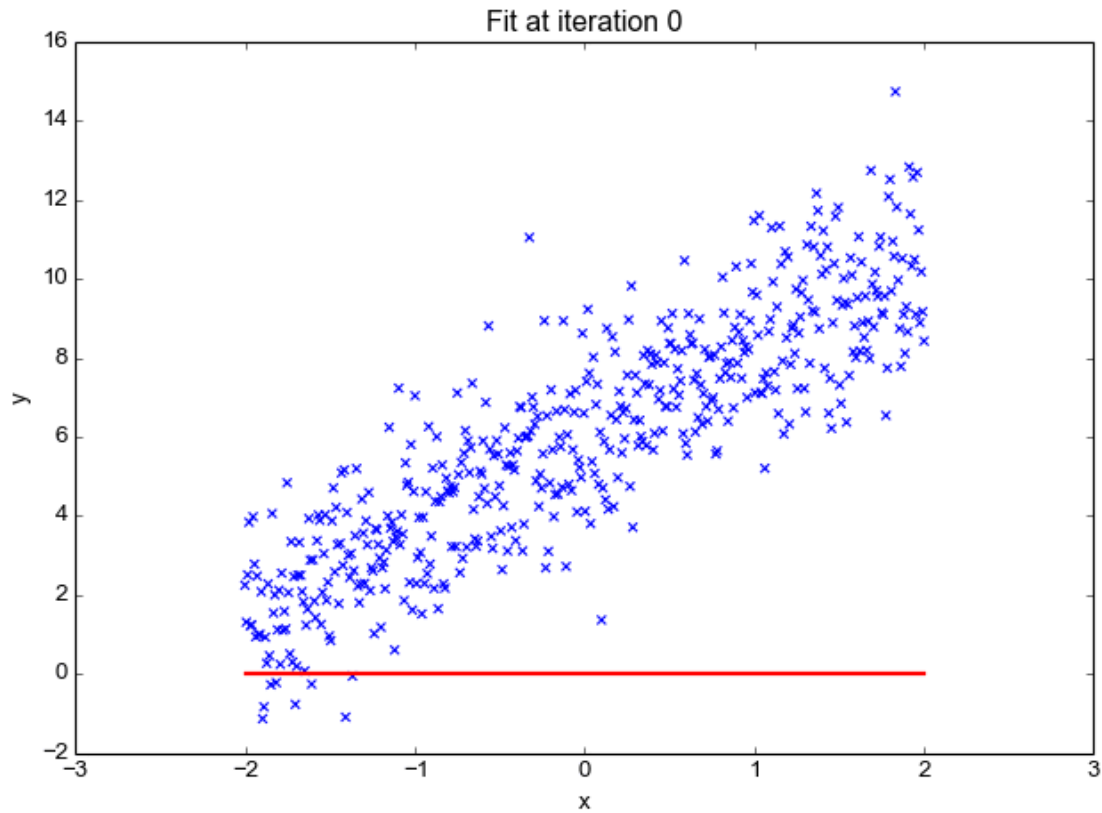
Features

What we know about our data set

Labels

The result or outcome we want our model to predict

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Classification – Discrete Labels

Linear Regression – Continuous Labels

Fit at iteration 0

raw data

	Supervised Learning	**Unsupervised Learning**
Discrete	classification or categorization	clustering
Continuous	regression	dimensionality reduction

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What about Cisco?

AI/ML Inside
Cisco Platforms

DNA Center

Tetration Analytics

Cognitive Threat Analytics

StealthWatch

Talos

WebEx Assistant

WebEx Endpoints

AppDynamics

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AI/ML Deployed On
Cisco Platforms

Industry tooling out of the box (CCP, Kubernetes, Kubeflow)

Nvidia Partnership

Cisco partnerships for hybrid-cloud deployments

Deliver customers a cloud-native AI experience on-prem

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AI/ML Built on Data From
Cisco Platforms

Rich data from nearly all Cisco products valuable to enterprise AI/ML data scientists

Datacenter & Network Infrastructure with Tetration & streaming telemetry

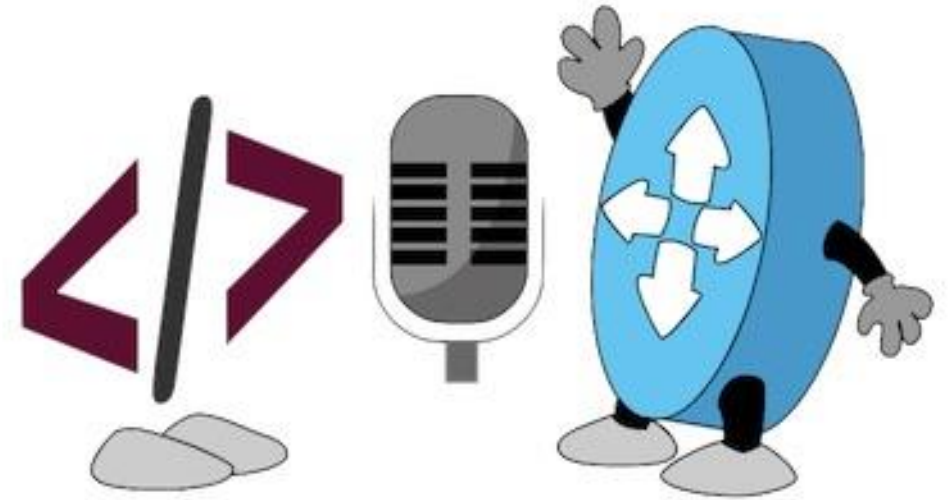Wireless location analytics

Collaboration

IoT

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What about Me?

Summing up

What did we talk about?

- What exactly is Machine Learning and Artificial Intelligence?

- Where is Cisco's interest and activity in these topics?

- Relevance to me? (network/infrastructure engineers)

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Webinar Resource List

- Docs and Links
  - https://developer.cisco.com/ai/
  - https://blogs.cisco.com/cloud/towards-consistentai

- Learning Labs
  - Intro to Machine Learning http://cs.co/lab-mlaiintro
  - Cisco Container Platform Intro http://cs.co/lab-ccp-intro

- DevNet Sandboxes
  - UCS C480ML Coming Soon!
  - Cisco Container Platform Sandbox http://cs.co/sbx-ccp15

- Code Samples
  - https://github.com/CiscoAI/KFLab

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Looking for more about NetDevOps?

- NetDevOps on DevNet
  developer.cisco.com/netdevops

- NetDevOps Live!
  developer.cisco.com/netdevops/live

- NetDevOps Blogs
  blogs.cisco.com/tag/netdevops

- Network Programmability Basics Video Course
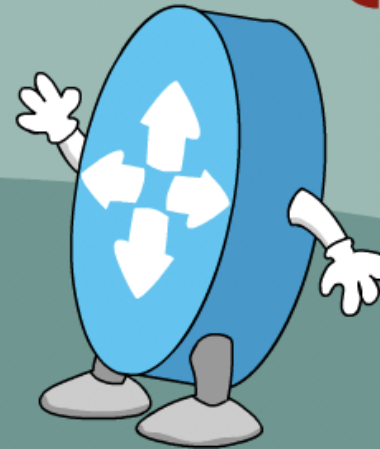 developer.cisco.com/video/net-prog-basics/

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