Unleashing the Power of Splunk® AI:

A AITK and DSDL Operationalization and Use Case Workshop

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Forward-looking statements

This presentation may be deemed to contain forward-looking statements, which are subject to the safe harbor provisions of the Private Securities Litigation Reform Act of 1995. Any statements that are not statements of historical fact (including statements containing the words “will,” “believes,” “plans,” “anticipates,” “expects,” “estimates,” “strives,” “goal,” “intends,” “may,” “endeavors,” “continues,” “projects,” “seeks,” or “targets,” or the negative of these terms or other comparable terminology, as well as similar expressions) should be considered to be forward-looking statements, although not all forward-looking statements contain these identifying words. Readers should not place undue reliance on these forward-looking statements, as these statements are management’s beliefs and assumptions, many of which, by their nature, are inherently uncertain, and outside of management’s control. Forward-looking statements may include statements regarding the expected benefits to Cisco, Splunk and their respective customers from the completed transaction, the integration of Splunk’s and Cisco’s complementary capabilities and products to create an end-to-end platform designed to unlock greater digital resilience for customers, our expectations regarding greater resiliency and better product outcomes, including for security and observability, plans for future investment, our development and use of AI and the role that our innovation plays as our customers adopt AI. Statements regarding future events are based on Cisco’s current expectations, estimates, and projections and are necessarily subject to associated risks related to, among other things, (i) the ability of Cisco to successfully integrate Splunk’s market opportunities, technology, personnel and operations and to achieve expected benefits, (ii) Cisco’s ability to implement its plans, forecasts and other expectations with respect to Splunk’s business and realize expected synergies, (iii) the outcome of any legal proceedings related to the transaction, (iv) the effects on the accounting relating to the acquisition of Splunk, (v) legislative, regulatory, and economic developments, (vi) general economic conditions, and (vii) the retention of key personnel. Therefore, actual results may differ materially and adversely from the anticipated results or outcomes indicated in any forward-looking statements. For information regarding other related risks, see the “Risk Factors” section of Cisco’s most recent report on Form 10-Q filed on February 20, 2024 and its most recent report on Form 10-K filed on September 7, 2023, as well as the “Risk Factors” section of Splunk’s most recent reports on Form 10-Q filed with the SEC on February 20, 2024 and November 21, 2023, respectively. The parties undertake no obligation to revise or update any forward-looking statements for any reason, except as required by law.

In addition, any information about our roadmap outlines our general product direction and is subject to change at any time without notice. It is for informational purposes only and shall not be incorporated into any contract or other commitment. We undertake no obligation either to develop the features or functionalities described, in beta or in preview (used interchangeably), or to include any such feature or functionality in a future release.

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Please introduce yourself!

- Name
- Company/organisation
- Role
- Are you currently using Splunk?
- What are you interested in using Splunk for?

Workshop Agenda

1. ML, MLTK and DSDL Overview
2. Module 0: Introducing Your Environment
3. Module 1: Anomaly Detection
4. Module 2: Clustering
5. Module 3: Predictive Analysis
6. Module 4: Data Science & Deep Learning

REGISTRATION 5 MINS

Enroll in Today's Workshop

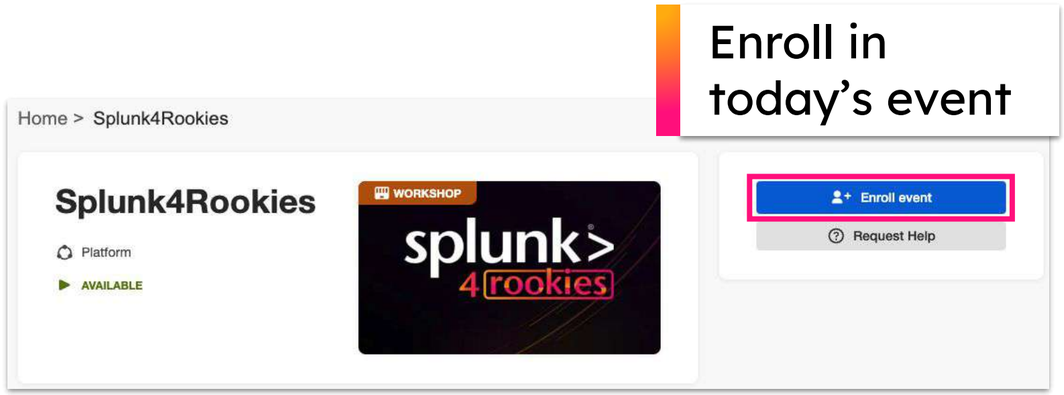
Tasks

1. Get a splunk.com account if you don't have one yet:
   https://splk.it/SignUp
2. Enroll in the Splunk Show workshop event:
   https://show.splunk.com/event/<eventID>
3. Download the hands-on lab guide:
   https://splk.it/MLTK-DSDL-Lab-Guide

   Contains step-by-step instructions for all of today's exercises!
4. Download a copy of today's slide deck:
   https://splk.it/MLTK-DSDL-Attendee

Goal

Enroll in today's event



What is AI and Machine Learning?

Definitions

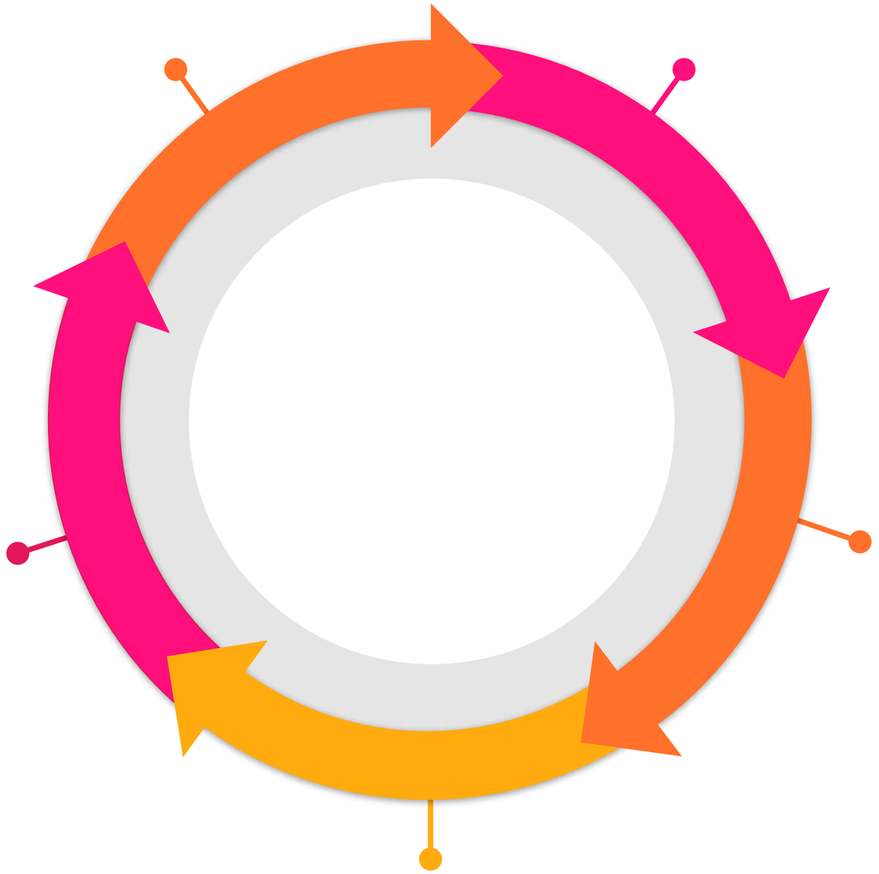
Artificial Intelligence (AI) - capability of a computer system to mimic human cognitive functions such as learning and problem-solving

Machine Learning (ML) - **subset of AI** that uses mathematical models of data to help a computer learn without direct instruction

Deep Learning - **subset of AI** that uses computationally intense ML models inspired by the “deep” layers of the biological neural network of the human brain to accomplish complex goals like image recognition
Example: Self driving car recognizes stop sign

Generative AI - **subset of AI** that involves the use of algorithms and techniques to generate new data, things that have not existed in the world before being created by the models
Example: OpenAI ChatGPT

ML is an Iterative Process



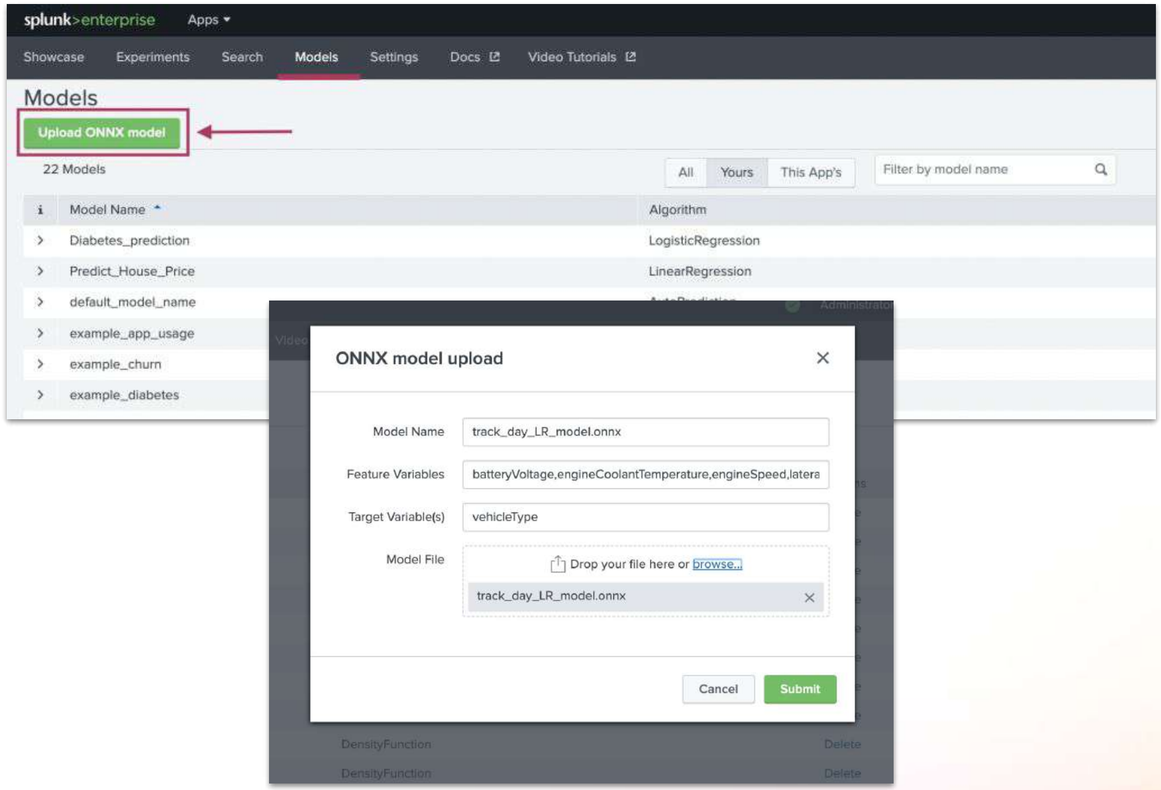
Customizable ML

Machine Learning Toolkit 5.4

Extend Splunk to Operationalize Machine Learning Use Cases Within Search

Designed for Splunk users at all levels

- **ML-Powered Splunk Searches:** Apply techniques like anomaly detection and predictions within search to power dashboards & insights
- **Showcase and Experiments:** Simple low-code experience to guide model building, testing, and deployment
- **Extensible out of the box:** 80+ built-in scikit-learn algorithms, and API support to plug in new runtimes



New updates!

- Ability to upload externally pre-trained ONNX models with a simple UI and then use the model with your Splunk data with no modification to your existing workflows
- Extended user anomaly detection capabilities with a new algorithm for multivariate outlier detection

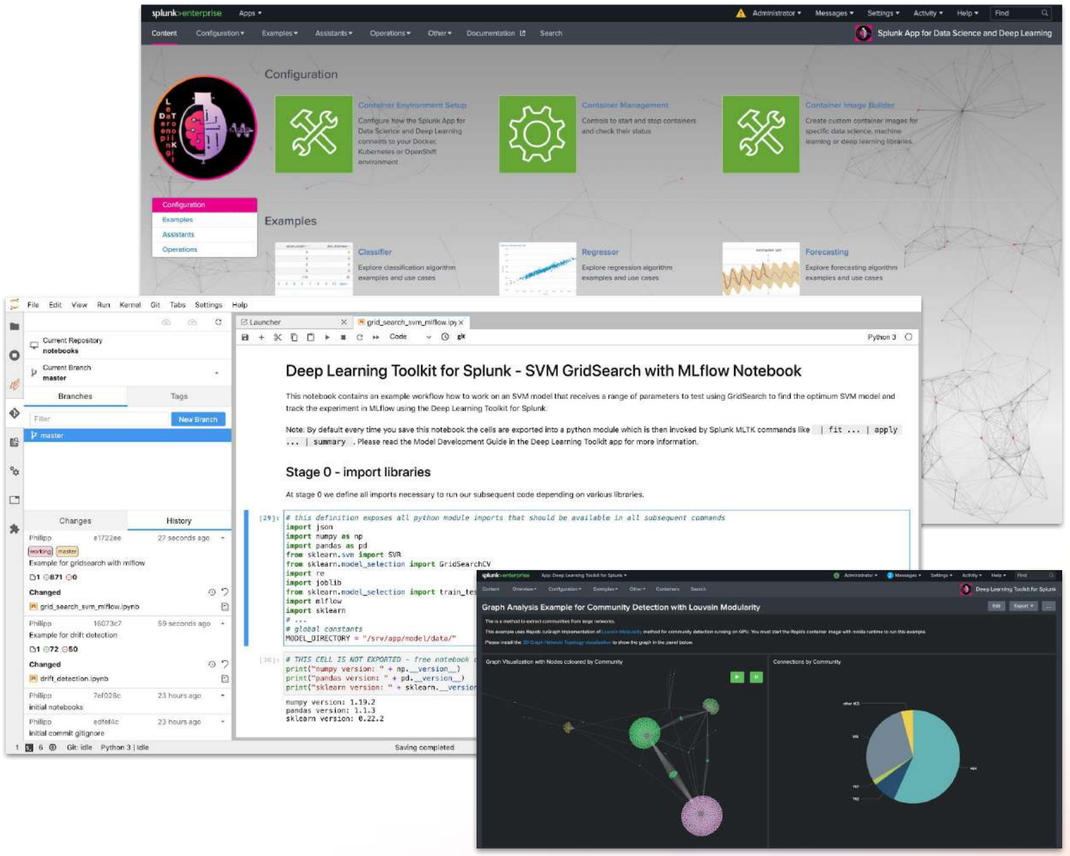
Customizable ML

Splunk App for Data Science and Deep Learning 5.1

Extension for MLTK to operationalize advanced custom AI / ML use cases

Built for Data Scientists

- **35+ Code Examples:** Guided model building, testing, and deployment of data science and deep learning frameworks
- **Container Management:** Models can be productionized for scalability & optimization of resources, e.g. CPU & GPU
- **State of the art AI frameworks and tools:** JupyterLab, MLflow, PyTorch, TensorFlow, SpaCy, DASK, Rapids, Spark, …
- **Flexible deployments and open source:** deploy on-prem, hybrid or in the cloud. Github repository for customization.



New updates in version 5.1!

- Two AI assistants to leverage LLMs to build and train models for text summarization and text classification use cases
- Customizable for adapting to own domain specific data

Module 0

Introducing Your Environment

- Single host Splunk environment
- Labeled netflow flow and domain datasets pre-loaded
- MLTK, DSDL and necessary TAs already installed and configured

10 Minutes

Module 1

Anomaly Detection

- Explore netflow datasets
- Train models to identify botnet traffic
- Tune models to generate more accurate results
- Apply models to find suspicious traffic

25 Minutes

Module 2

Clustering

- Explore domain name datasets
- Engineer new features using URL Toolbox
- Cluster domains together

20 Minutes

Module 3

Predictive Analysis

- Use features engineered in Module 2
- Train models to predict which domain generating algorithm (DGA) created a domain
- Train models to predict whether a domain is legitimate or created by a DGA

20 Minutes

Module 4

Deep Learning

- Verify DSDL container environment
- Walk through Jupyter Notebook use cases to perform modeling activities with Splunk

30 Minutes

Thank You!

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