Machine Learning (ML) for People in a Hurry!
[an introduction to machine learning]

Description

Looking to make your hack-a-thon projects 'smart'? Curious about what makes ChatGPT tick? Learn the fundamentals and start making models in this hour long introductory machine learning workshop covering topics such as exploratory data analysis, model building, evaluation, and deployment.

Learning Outcomes

After this workshop, you will be able to:
- Understand what machine learning is, and where it could be applied
- Read in a data set, explore it, transform it, and build a model from it
- Deploy a basic model for use in non-production settings (e.g., Hack the North)

Prerequisite Knowledge

No background in machine learning is required. Knowledge of Python is beneficial but not essential; knowledge of some other, similar imperative languages is also good.

Familiarity with ML is also okay; this workshop will cover ground you may not have seen previously (e.g., model deployment) and serve as an overall refresher.

Pre-Workshop Checklist

Before the workshop, please make sure you complete the following items:

- Access the repository; ensure you can access the slides
  - (optional) if you'd like, clone the repo and follow the setup instructions for working locally
  - (optional) alternatively, clone the Google Colab
  - ...you can also just chill during the workshop :-)
- Make sure you're familiar with tic-tac-toe...

Technical Jargon and Definitions

- **Machine learning:** the process of using machines to 'discover' algorithms for new problems from data
- **Supervised learning:** the process of using machines to predict a known target for labeled data (e.g., hotdog or not hotdog
- **Unsupervised learning:** the process of using machines to predict an unknown target (e.g., "grouping" or clustering data in chunks)

Timeline (60 min.)

Time	Module	Description
5 min.	Introduction	Agenda, goals
50 min.	A hands-on start with machine learning	We'll *skim* the entire machine learning workflow: reading data, 'wrangling' data, building and tuning a model, basic deployment. Resources will be provided at each stage to support you throughout the weekend!
5 min.	Wrap-up and Q&A	Any lingering questions!

Workshop Lead Contact

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Additional Resources

Hack the North Resources

Hack the North 2023 Event Schedule

Check this out to stay up-to-date on activities, workshops, and other key happenings this weekend.

Workshop-Specific Resources

scikit-learn: an introduction to machine learning ([link](#))

Google's Machine Learning Crash Course ([link](#))