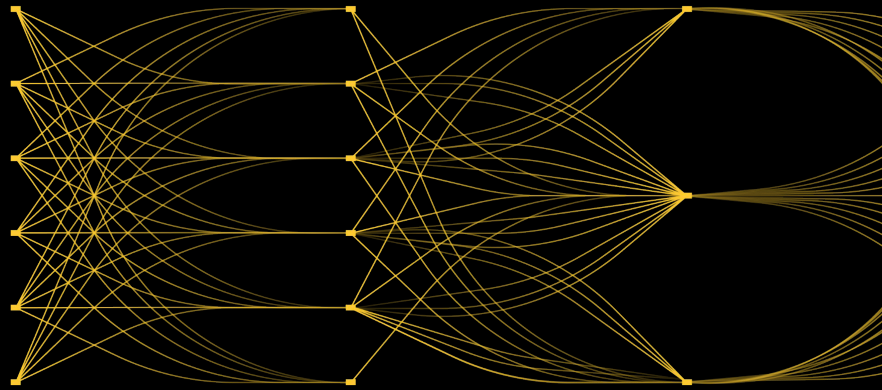
Weights & Biases

Effective MLOps
Model Development



Lesson 2 - Hyperparameter Optimization and Collaborative Model Training

July 2022

RECAP LESSON 1

Building an End-to-End Prototype

Understand the Business Context

Frame the Data Science Problem

Explore & Understand Your Data

Establish Baseline Metrics & Models

Communicate Your Results

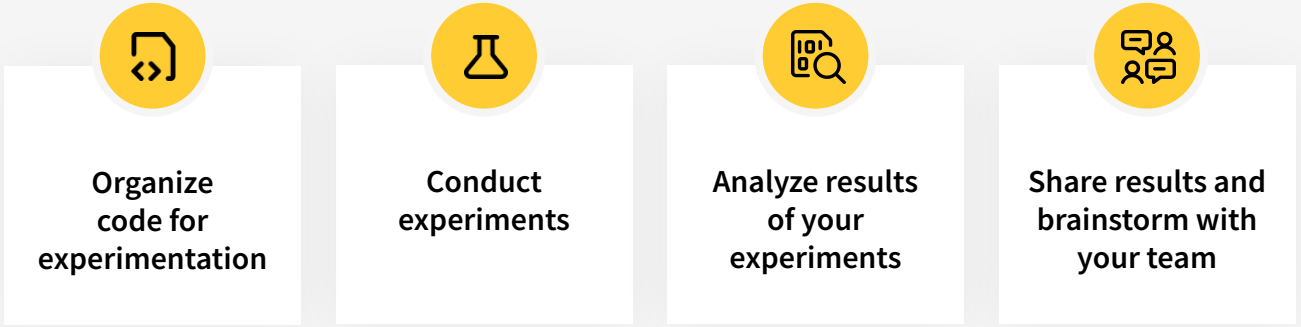
Tables

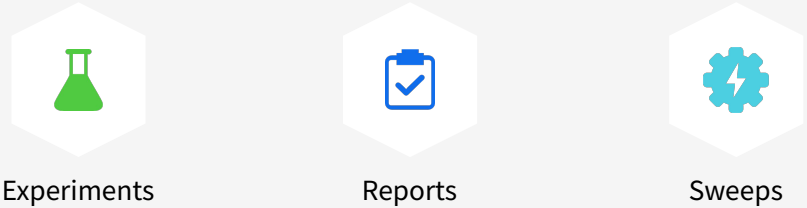
Artifacts

Experiments

Reports

Hyperparameter Optimization and Collaborative Model Training





Our Goals

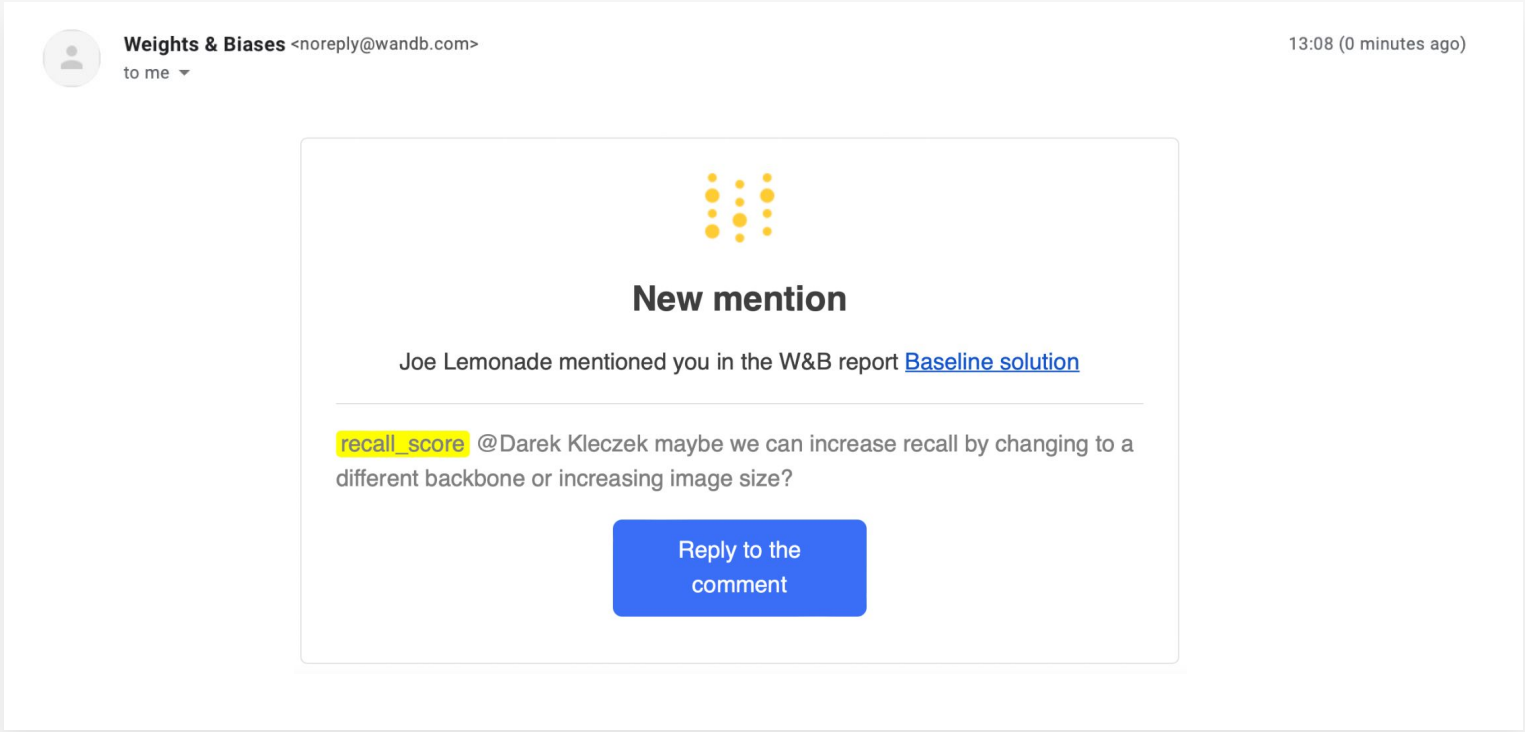
Increase Output

More experiments, better insights, improved metrics and business results

Reduce Effort

Less time per experiment, better choices of which architectures or parameters to explore, more effective collaboration

Collaborating in a Team

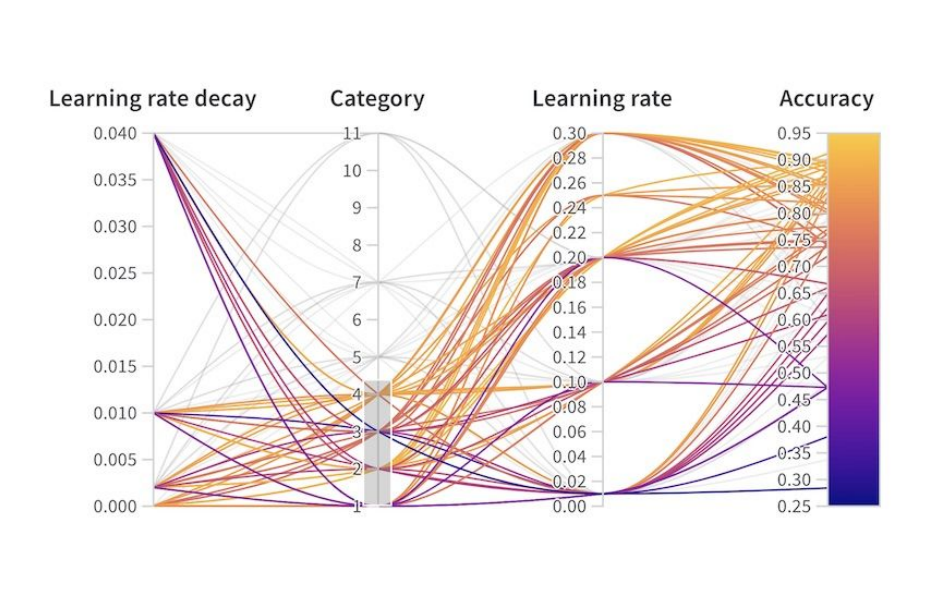


Refactoring

1. **Refactor cells into functions**
2. **Convert notebook into script**
3. **Add argparse for command line arguments**

Sweeps

- Scalable, customizable hyperparameter search
- Find the best configuration for your project
- Understand parameter importance and visualize correlation plots
- Launch a sweep across dozens of machines
- Choose between Random, Grid and Bayesian sweeps



Analyze Experiments

Dashboard

- Group, sort and filter runs
- Easily create new plots

Reports

- Summarize and communicate your findings

Artifact View

- Compare prediction tables (next week)

Assignment 2

- Run sweep on your project
- Share your insights via report
- Post them in course discord channel (before Lesson 3)