Visualization tool for Marian

https://marian-nmt.github.io

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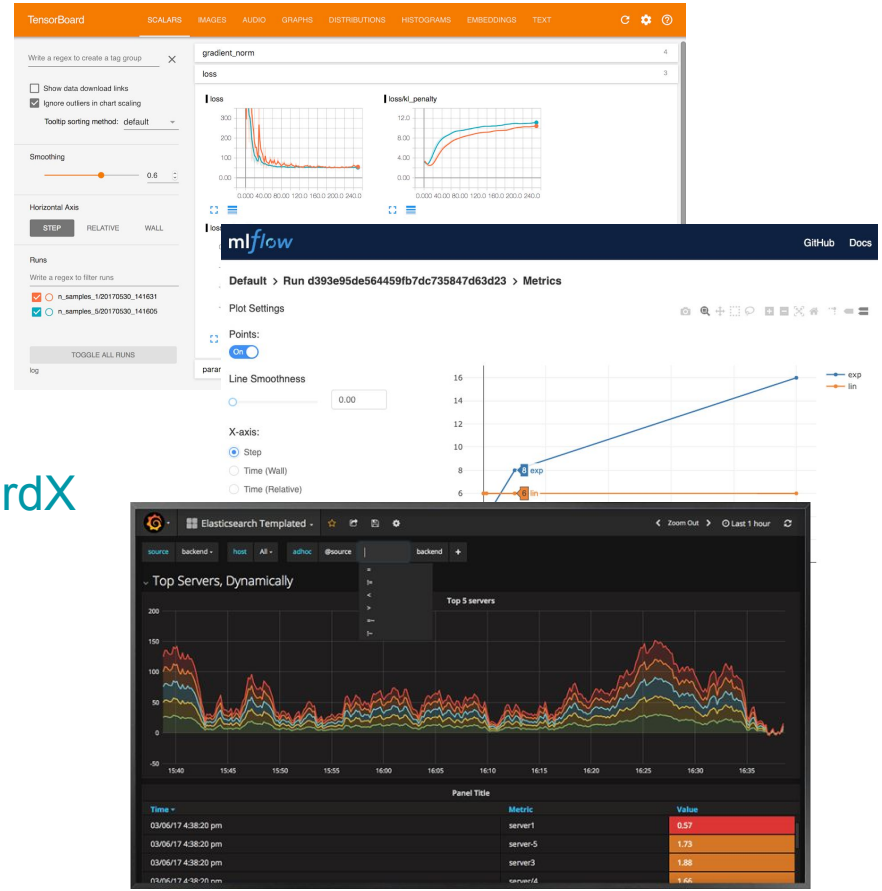
Tools

- MLflow
  https://mlflow.org/
- TensorBoardX
  https://github.com/lanpa/tensorboardX
- Grafana
  https://grafana.com/

none is perfect...



Progress

- Testing 3 tools
- System design
  - `marian` (client) sends logs via REST API to `marian-board.py` (server)
  - `marian-board.py` is running TensorBoardX and/or MLflow
- Refactoring logging of training updates in scheduler
- Parser for training logs
- Demos for MLflow and TensorBoardX

Usage

Single machine:

- `./marian-board.py`
- `./build/marian <options>` **`--exp-id`** `ende_123` **`--board`**

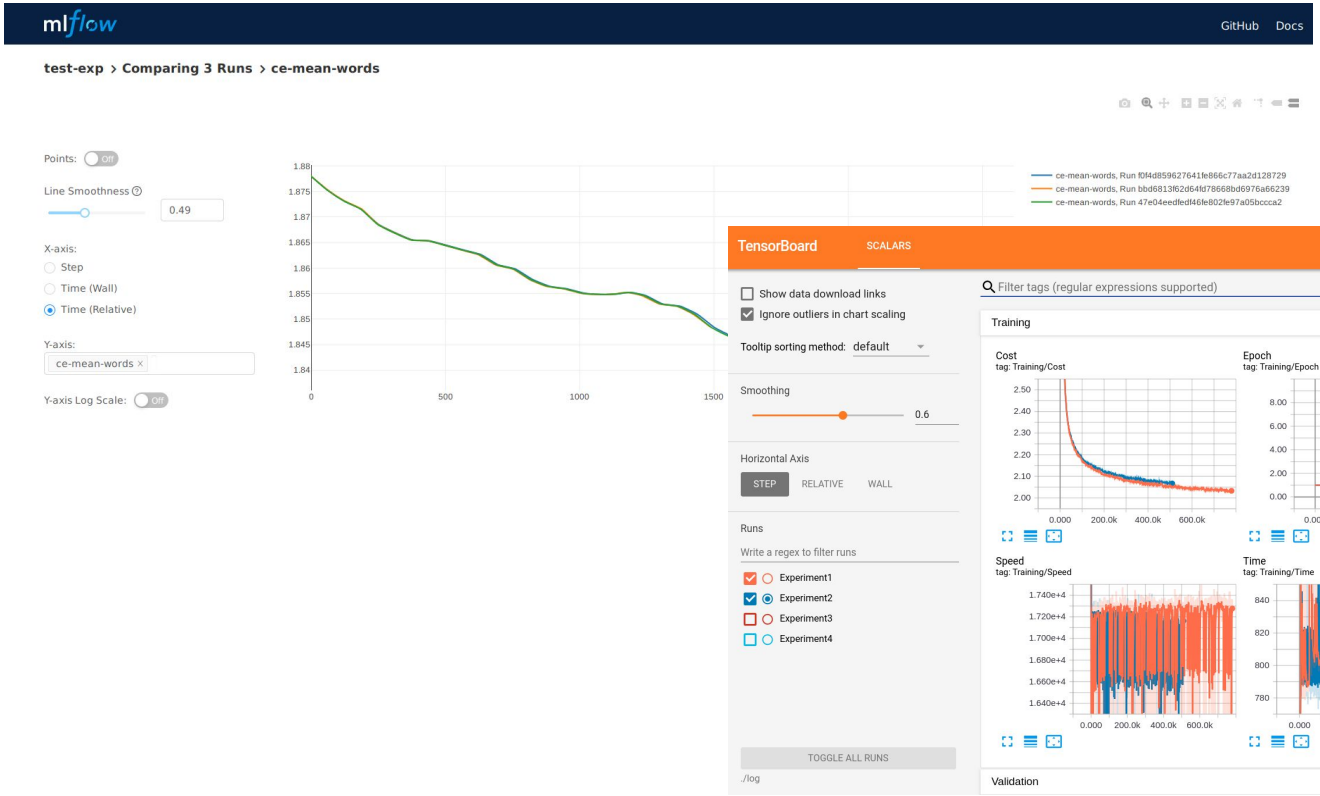
Two machines:

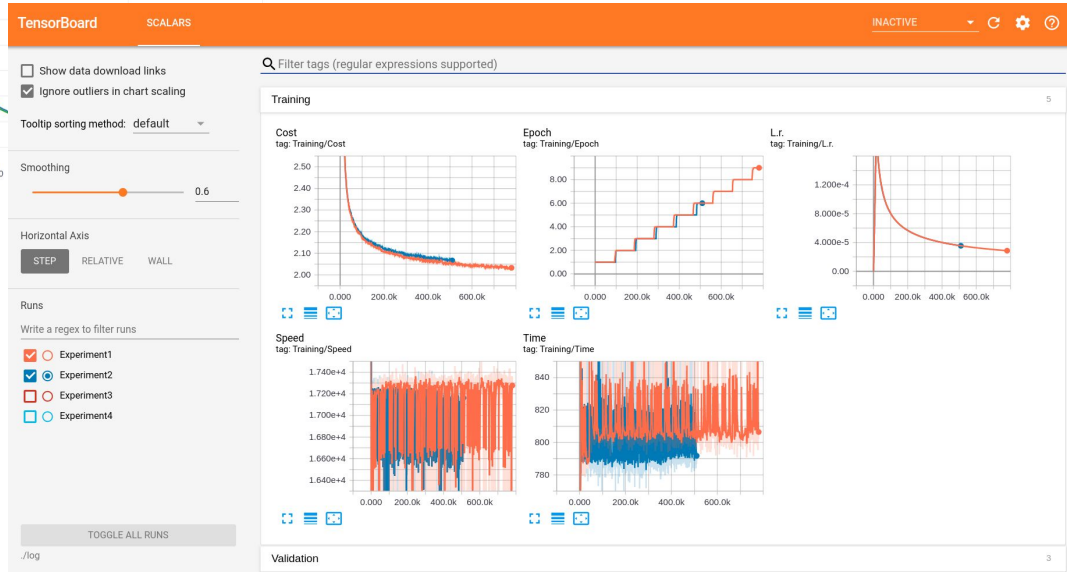
- `./marian-board.py --port 2222`
- `./build/marian <options>` **`--exp-id`** `ende_123` **`--board`** `321.123.45.6:2222`

Historical experiments:

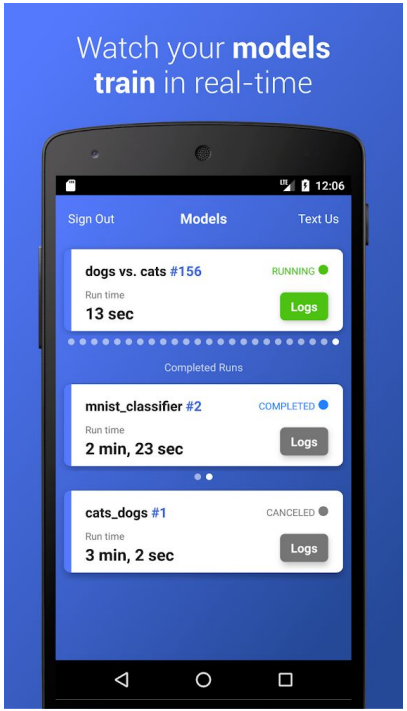
- `./marian-board-logger.py` **`--exp-id`** `ende_102` **`--log`** `train.log`

Demos


mlflow
GitHub
Docs
test-exp › Comparing 3 Runs › ce-mean-words
Points:
Line Smoothness
0.49
X-axis:
Step
Time (Wall)
Time (Relative)
Y-axis:
ce-mean-words
Y-axis Log Scale:
ce-mean-words, Run f0f4d859627641fe866c77aa2d128729
ce-mean-words, Run bbd6813f62d64fd78668bd6976a66239
ce-mean-words, Run 47e04eedfedf46fe802fe97a05bccca2


TensorBoard
SCALARS
INACTIVE
Filter tags (regular expressions supported)
Show data download links
Ignore outliers in chart scaling
Tooltip sorting method: default
Smoothing
0.6
Horizontal Axis
STEP
RELATIVE
WALL
Runs
Write a regex to filter runs
Experiment1
Experiment2
Experiment3
Experiment4
TOGGLE ALL RUNS
./log
Training
Cost
tag: Training/Cost
Epoch
tag: Training/Epoch
L.r.
tag: Training/L.r.
Speed
tag: Training/Speed
Time
tag: Training/Time
Validation

Extending: Hyperdash

A fun tool for sending logs to your phone:

- Problem
  - unclear security situation / terms of service
- Solution
  - run `marian-board.py` outside corpnet, connect `marian` to `marian-board.py` securely