Conference Paper Title*

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Abstract—This document is a model and instructions for LaTeX. This and the IEEEtran.cls file define the components of your paper [title, text, heads, etc.]. *CRITICAL: Do Not Use Symbols, Special Characters, Footnotes, or Math in Paper Title or Abstract.

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I. INTRODUCTION

- Machine learning has increased in popularity
  - image classification
- studies have tried to analyse I/O patterns in DL Workflows (source)
- very few get down to kernel level
- eBPF are ...
- we seek to provide a tool to Characterize DL workloads using eBPF's

II. BACKGROUND

- Dl involves iterating through a dataset
- passing it through all the layers to calculate a loss (forward pass)
- use calculated loss to update the learnable parameters of the network
- once all data is read exactly once one epoch as passed (I/O intensive)
- pytorch is a DL framework
- Distributed DNN training (data paralellism)
- checkpointing involves saving the model state
- in pytorch its done with torch.save() and in offitial workloads is done in between epochs
- eBPF's

III. RELATED WORK

IV. DESIGN

- Grafana

V. EVALUATION METHODOLOGY

- dstat, nvidia-smi to get cost of using the tool
- grafana dashboard to get data

VI. EVALUATION RESULTS

VII. CONCLUSION