

Neural Networks at a Fraction: Table Structure Recognition

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Objective

To make quaternion versions of the Table Transformer (TATR) model and deploy in a low powered mobile device with limited memory and computational power.

Dataset: PubTables-1M, FinTabNet, ICDAR 2013

Model: Table Transformer (TATR) model

Relevant Papers

- End-to-End Object Detection with Transformers (2020)
from *Facebook AI Research* (Nicolas Carion, Francisco Massa et al.)
- GriTS: Grid table similarity metric for table structure recognition
from *Microsoft Research* (Brandon Smock, Rohith Pesala, Robin Abraham) (2022)
- Aligning benchmark datasets for table structure recognition
from *Microsoft Research* (Brandon Smock, Rohith Pesala, Robin Abraham) (2023)

Plans

- ✓ Understand the GriTS metrics
- ✓ Learn about transformers
- ✓ Understand the DE:TR model and pipeline
- ☐ Understand the TATR model and dataset
- ☐ LTH on pretrained TATR on the FinTabNet dataset
- ☐ Compare Finetuned pruned model vs pruned finetuned model
- ☐ Make quaternion version of the TATR model
- ☐ LTH on Quaternion TATR model
- ☐ Production
 - ☐ Export model weights in required format
 - ☐ Deploy on Microsoft Lens