



SCHOOL OF ENGINEERING SCIENCE
MULTIMEDIA LABORATORY

DFTS VERSION 2: USER DOCUMENTATION

TR-ML-2020-???

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DFTS Deep Feature Transmission Simulator. [1](#)

SFU Simon Fraser University. [1](#)

Introduction

This technical report serves as user documentation for **DFTS** version 2. The original **DFTS** was developed by Harshavardhan Unnibhavi, an intern at **SFU**'s Multimedia Lab in 2018 with the objective of studying packet-based transmission of deep features over unreliable communication channels [1]. Version 1 of **DFTS** (along with a test set consisting of 867 images from 10 classes of *Imagenet*) can be cloned from the public repository at <https://github.com/SFU-Multimedia-Lab/DFTS>. A number of higher-level API calls in *TensorFlow* version 2 break the operation of **DFTS** version 1. The motivation for upgrading **DFTS** was to gain compatibility with *TensorFlow* version 2.

1.1 What can DFTS version 2 do?

1.2 Overview of this document

- Chapter 2 discusses validation tests to verify that **DFTS** version 2 produces matching results to the original version.
- Chapter 3 explains in full detail the operation of the key modules in **DFTS**.

Validation results

https://github.com/AshivDhondea/DFTS_compat_v1

Key modules in DFTS

Bibliography

- [1] H. Unnibhavi, H. Choi, S. R. Alvar, and I. V. Bajić, “Dfts: Deep feature transmission simulator,” 2018. [\[1\]](#)