Open Media Forensics Challenge 2020

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Overview

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OpenMFC 2020 Motivation

- Interest in Media Forensics has increased over the past four years

- NIST released the NC17 and MFC18 datasets [1] to more than 250 individuals, 145 organizations, from 26 countries and regions worldwide

- Media Forensics is still not a solved problem (Best AUC in MFC20 for image detection is 0.81)

- Running an open leaderboard-style evaluation utilizing MediFor data resources will stimulate research and get more value from the data resources

[1] Email to mfc-poc@nist.gov for datasets

OpenMFC 2020 Summary

- ## What

  The Open Media Forensics Challenge (OpenMFC) is a media forensics evaluation to facilitate development of systems that can automatically detect and locate manipulations in imagery (i.e., images and videos).

- ## Who

  The NIST OpenMFC is open worldwide. We invite all organizations including past DARPA MediFor Program participants to submit their results using their technologies to the OpenMFC evaluation server. Participation is free. NIST does not provide funds to participants.

- ## How

  To take part in the OpenMFC evaluation you need to register on the website and complete the data license to download the data. Once your system is functional you will be able to upload your outputs to the challenge website and see your results displayed on the leaderboard.

OpenMFC 2020 Tasks

- Image Manipulation Detection and Localization (IMDL)
  - To detect if the image has been manipulated, and then to spatially localize the manipulated region

- Image GAN Manipulation Detection and Localization (IGMDL)
  - To detect GAN-manipulated images (e.g. created by a GAN model, locally/globally modified by a GAN filter/operation, etc.) specifically while not detecting other forms of manipulations.

- Video Manipulation Detection (VMD)
  - To detect if the video has been manipulated

- Video GAN based Manipulation Detection (VGMD)
  - To detect GAN manipulated videos (e.g. created by a GAN model, temporally/spatially modified by a GAN filter, etc.) specifically while not detecting other forms of manipulations.
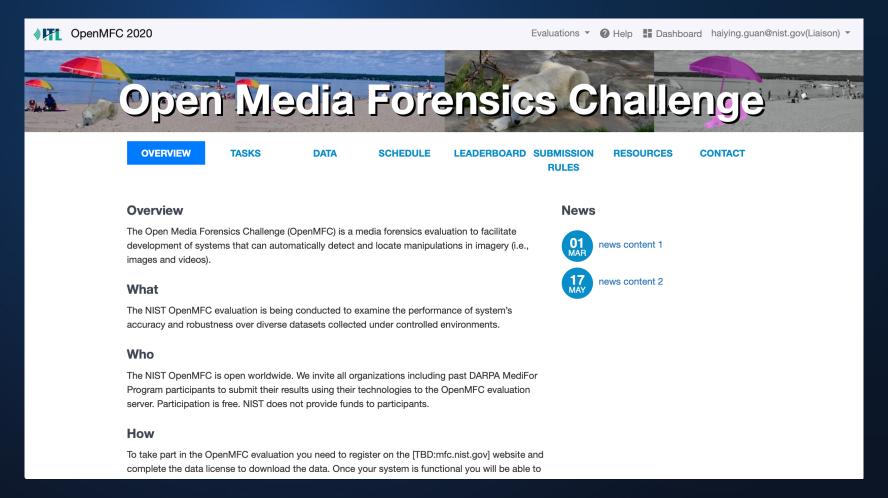
OpenMFC 2020 Data

- Evaluation Data
  - OpenMFC20 plans to use DARPA MediFor MFC19 Evaluation Part 1 data
- NIST Development Data
  - DARPA MediFor NC17 development image/video dataset
  - DARPA MediFor NC17 Evaluation Part 1 image/video dataset
  - DARPA MediFor MFC18 development 1 image/video dataset
  - DARPA MediFor MFC18 development 2 image/video dataset
  - DARPA MediFor MFC18 Evaluation Part 1 image/video dataset
- DARPA MediFor Performer Produced Data
- External Data

OpenMFC 2020 Website

https://mfc.nist.gov (TBD)

8 OpenMFC 2020 Leaderboards

- Image Manipulation Detection and Localization - Image Only (IMDL-IO)
- Image Manipulation Detection and Localization - Image + Meta (IMDL-IM)
- Image GAN Manipulation Detection and Localization - Image Only (IGMDL-IO)
- Image GAN Manipulation Detection and Localization - Image + Meta (IGMDL-IM)
- Video Manipulation Detection - Video Only (VMD-VO)
- Video Manipulation Detection - Video + Meta (VMD-VM)
- Video GAN Manipulation Detection - Video Only (VGMD-VO)
- Video GAN Manipulation Detection - Video + Meta (VGMD-VM)

OpenMFC 2020 Key Features

- People all over the world are encouraged to participate in the challenge

- Container submissions are not supported

- The major focus is on holistic detection tasks – Opt-In systems are not leaderboard suitable

- The first special task focuses on GAN detection

- Evaluation website will provide a leaderboard to report evaluation results

Questions?

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Thank You!