The Medical Image De-Identification Initiative (MIDI)

Keyvan Farahani, PhD

farahani@nih.gov

NIH NATIONAL CANCER INSTITUTE

MIDI Workshop
May 22-23, 2023
Center for Biomedical Informatics and Information Technology (CBIIT)

What is MIDI?

1. **Medical Image De-Identification (MIDI)**

2. **Medical Image De-identification Initiative (MIDI)**

Session 8: The Medical Image De-Identification Initiative (MIDI)

Session 8: NCI MIDI Datasets and Pipeline

- 12:50 pm - 1:50 pm
- This session will present CBIIT/NCI Medical Image De-Identification Datasets and Pipeline
- ***Session chair: Keyvan Farahani, PhD, NHLBI & NCI***
- 12:50 pm - 1:00 pm Keyvan Farahani, PhD
  The Medical Image De-Identification Initiative (MIDI)
- 1:00 pm - 1:10 pm Fred Prior, PhD, University of Arkansas for Medical Sciences
  Synthetic Data for De-Identification Testing
  The MIDI Datasets
- 1:10 pm - 1:20 pm Ben Kopchick, PhD, Deloitte Consulting
  Building a Cloud-Based MIDI Pipeline
- 1:20 pm - 1:50 pm *Panel Discussion*

Panelists - Session 8

- Fred Prior, PhD - University of Arkansas Medical Sciences
- Ben Kopchick, PhD - Deloitte
- Ying Xiao, PhD - University of Pennsylvania
- David Clunie, MBBS - PixelMed Publishing

MIDI: Motivation

- Demands for sharing of medical images has grown substantially over the past several years.

- Scalability and automation of image de-identification must be considered
- Furthermore, there's general lack of clarity about what level of de-identification is safe and acceptable.

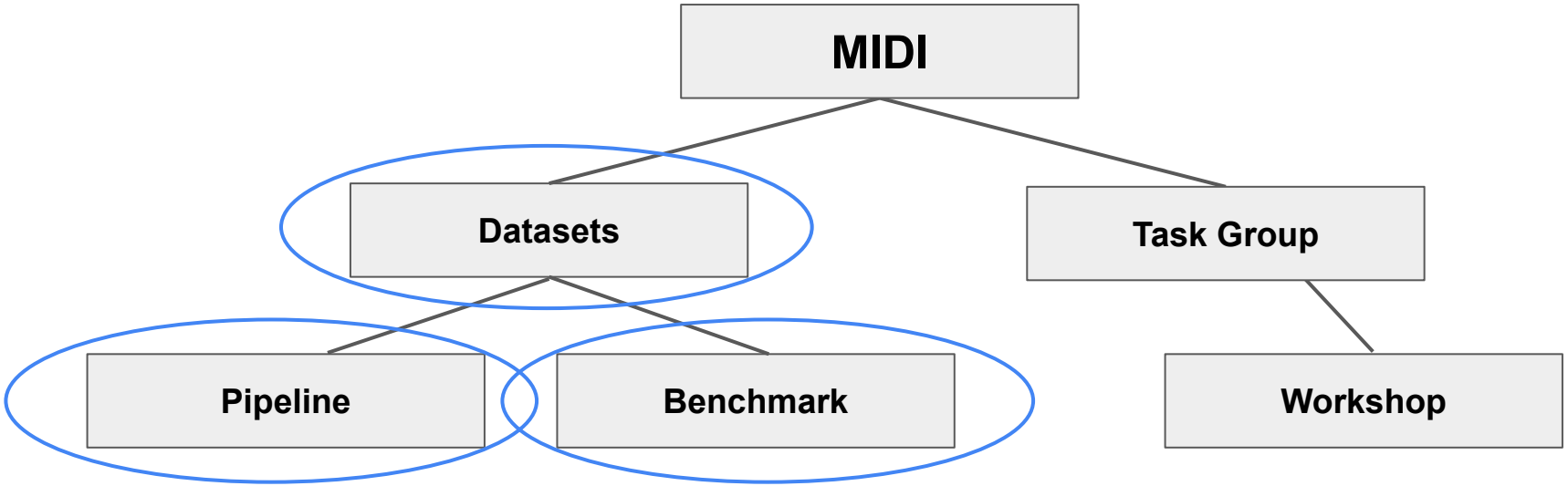
- What are some possible solutions to scalability and automation?
- What are the guidelines on best practices for image de-identification for public repositories?

The Medical Image De-Identification Initiative (MIDI)

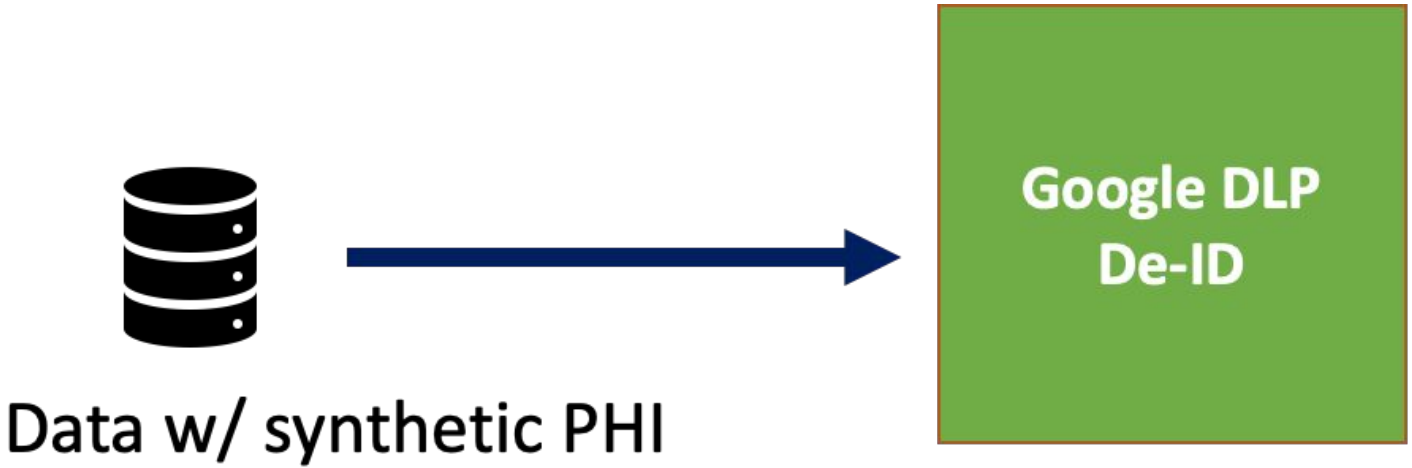
A series of interrelated projects to address the following needs:

- A scalable, AI-enabled, image de-identification solution, reference datasets
- Guidelines and best practices, and community engagement

The Medical Image De-Identification Initiative (MIDI)

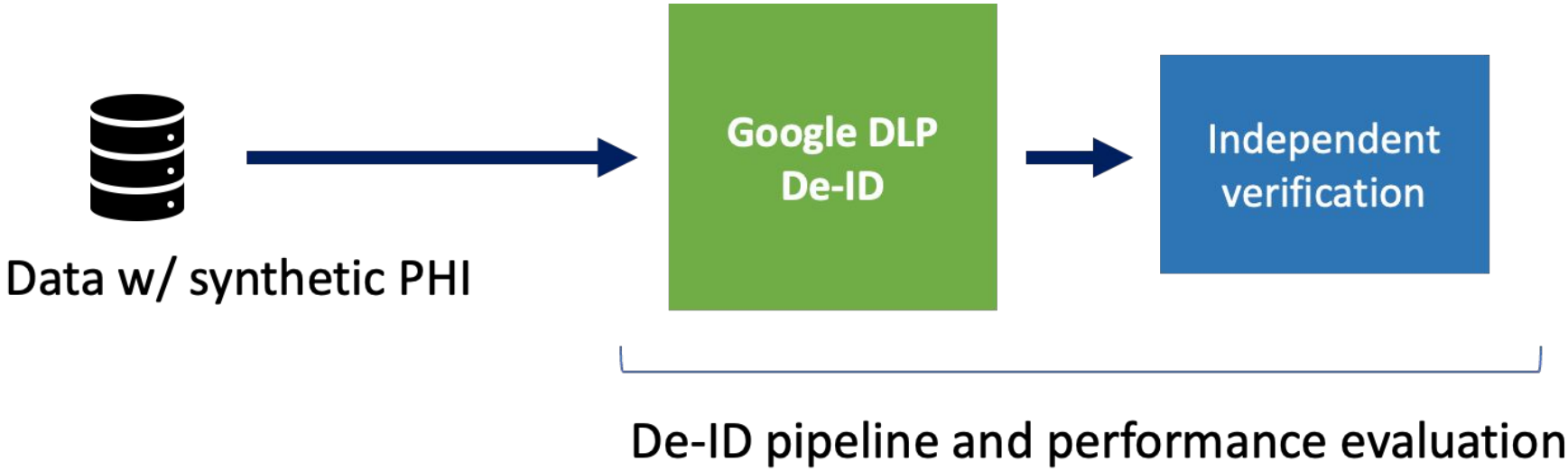


The MIDI Dataset and Pipeline: Phase 1



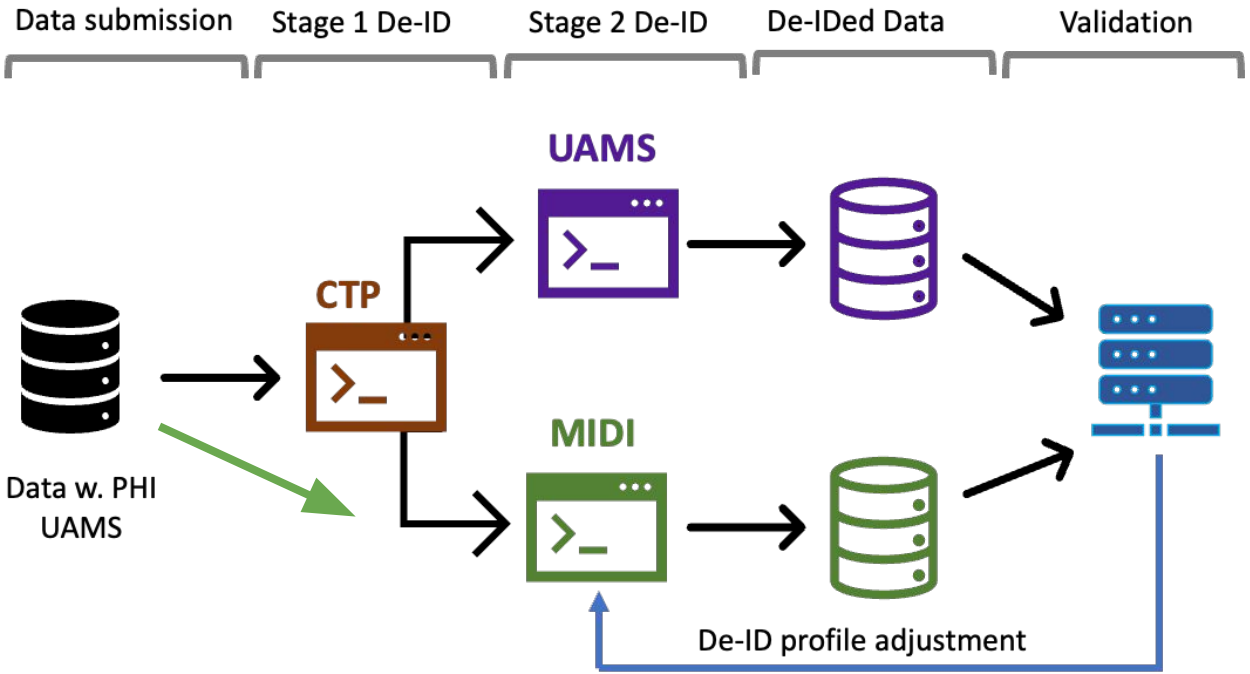
Rutherford M, et. al., A DICOM dataset for evaluation of medical image de-identification. Sci Data. 2021 Jul 16;8(1):183.

MIDI Pipeline: Phase 2



Kopchick B, et. al., SPIE Medical Imaging 2022
Kopchick B, et. al, AACR Annual Meeting 2023

MIDI Pipeline: Phase 3



MIDI Benchmark Challenge

An opportunity to benchmark the performance of image deID tools against a diverse multi-site, multi-modality, reference dataset.

MICCAI 2024
Oct 6-10
Marrakesh, Morocco

Acknowledgments

- Deloitte Consulting
- Google Cloud
- Pixelmed Publishing, LLC
- University of Arkansas for Medical Sciences
- Ellumen Inc.
- Frederick National Laboratory for Cancer Research
- CBIIT/NCI
- NHLBI
- NIH STRIDES

farahani@nih.gov

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