Assist MD is a computer vision platform that tracks surgical events in real time!

**Motivation**

A surgeon's story

On average, surgeons write 398 operative reports a year, each taking 10 minutes to complete. Over a 35 year career, a doctor loses 2320 hours on this paperwork!

- 50% of a surgeon's time spent doing paperwork
- 92% are upset with paperwork and 90% say it obstructs patient care

**Integrating a solution**

1. Hospital registers with Assist MD
2. Set up Assist MD cameras
   Perform surgery as usual
3. Live event tracking
   Surgery streamed for observation
   Instrument stats collected
4. Operative Report is generated
   Performance estimation generated
5. Surgeon saves time on paperwork
   More time for patient care

**Assistance in Surgery**

Equipment needed: Dual Cameras

Surgery Feed

- Streaming app captures medical scene

Instrument Feed

- Python server streams webcam data

Content Manager

- Instrument detector

- Bambuser remotely stores surgery feed
- Tensorflow backend performs detections
- IoT server distributes prediction data

Streamed content and event details are delivered to app in video/graphical format

**Web App**

Register new hospitals to Assist MD
Observe surgery streams from anywhere
Retrieve Operative Reports

- Home Page
  - Register hospital to start tracking surgeries
  - Profiles count surgeries performed
  - Observe all surgeries from any hospital

- Hospital Profile
  - Watch surgeries and see stats live
  - All surgeries auto upload to profiles
  - Review performance estimation

- Operative Report
  - Narrative of surgery is generated as Operative Report in a PDF
  - Surgeon cuts out manual paperwork and recovers lost time

- No more hand-written reports
  - More precise narratives

**Brian Humphreys (Tech Lead)**

David Roster (Team Scribe)

Siddharth Malik

Ram Malyala

Andrew Laux

Prof: Tevfik Bultan, Chandra Krintz

TA: Steve Bako, Nazmus Saquib

Mentor: John Batikian

"Generating operative reports is the holy grail of medical tech industry"

-Bruce Kennedy (Arthrex Tech VP)