Harbinger+Air

What I've learned

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the overview I

- Who am I?
- Project Harbinger+Air
- Where's the data?
- What it is now
- What we learned

Who am I?

Who am I?

Just some pilot

LCDR Alex “Jarvis” Buck

- USNA ’11, MIT ’13
- MH-60R pilot, Seahawk Weapons & Tactics Instructor
- Mostly based from San Diego, C7F + C5F deployments
- Currently at Carrier Air Wing EIGHT in NAS Oceana

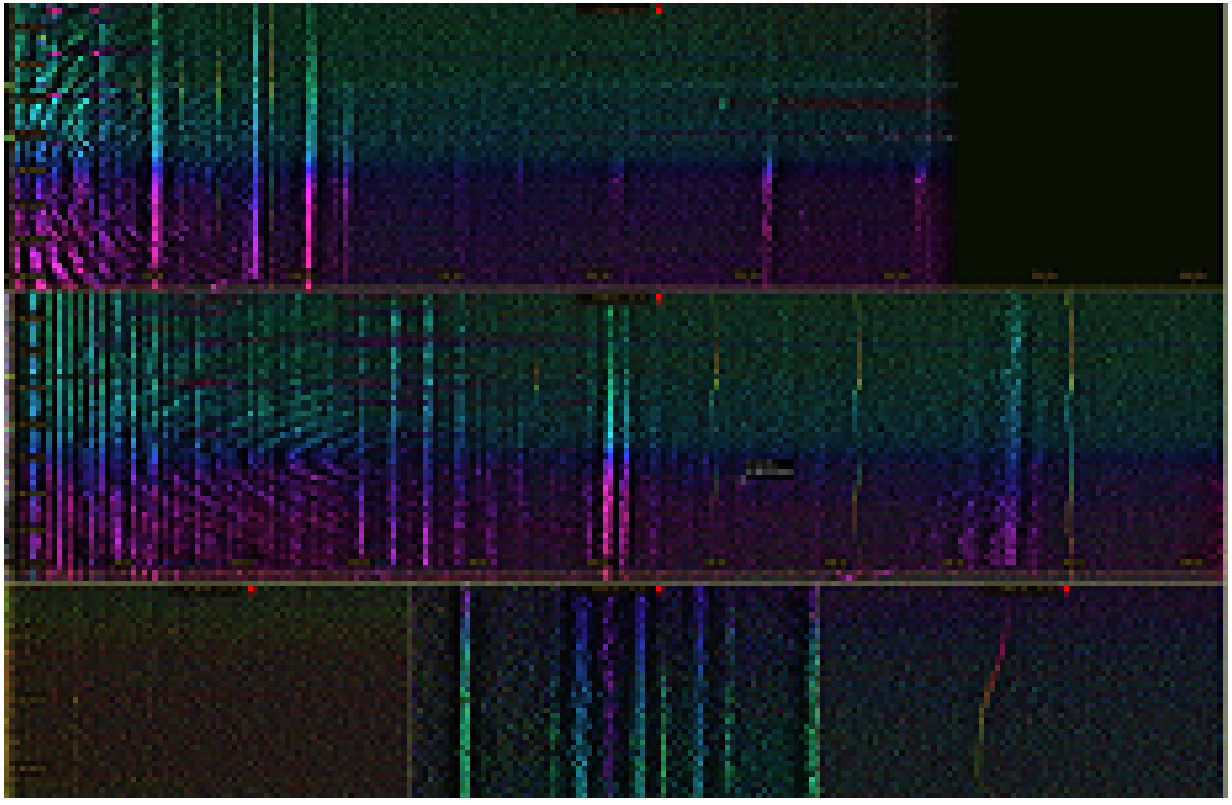
In the right place at the right time

- HSM Weapons School Pacific & Project Maven
- HSM-49.2 & Artem Sherbinin

Project Harbinger+Air

Project Harbinger+Air

Use machine learning to classify acoustic contact in the spectrogram (*gram*) from an SSQ-53 series DIFAR buoy.



Where's the data?

What happens after a flight

It gets deleted

Once any immediate debrief is complete, re-format the cards.

Except ESM... sometimes

The only sensor data collection process in the MH-60R fleet.
Multiple steps for the user:

- Run a program to parse ESM data
- Find output in obscure folder
- Rename output according to specific format
- Upload output to IntelDocs

Well that's not great

What would we like?

Every Byte, Every Flight

- ~20 GB/flight-hour
- ~240 GB/flight-day (12-hour fly day)
- ~36 TB/2-bird detachment (150 fly days)
- ~60 TB/CVN element (20-hour fly day, 150 fly days)

Alone with a Snowball

- Security Manager: “What the *$%! is this?”

- HARP students: “You want me to do what?”
- Iterate over 4 HARPs throughout 2020 and 2021

What it is now

Status of Harbinger+Air fleet collections

- Data collection process used on **14** operational deployments and numerous HARP classes.
- Large 10TB hard drives for on-ship cache. Dump to Snowball upon return.

What we learned

What we learned

- Understand the user workflow
- Minimize what the user needs to learn
- Labelling is hard.
- Details:
  - ARPDD discriminator data is huge. Nothing uses this data yet.