Data Approaches to Improve Mission Effectiveness

Paul Lieber, Ph.D.
Chief Data Scientist, Cyber Mission Sector
paul.lieber@peraton.com

Problem Statement

- How do we use technology to correlate data and information to inform the commander of developing risks and opportunities to ongoing missions to enable timely decision making?

Overview

Nearly all current data driven solutions reason for data integration but mainly fail to consider:

- Existing (data and practice) workflows
- Data nuance, structure and automation
- Human: machine teaming efficiencies
- Appropriate AI/ML model design validation steps
- System resource requirements for data
- End user-centered design
- Historical data needs and archiving

Current Execution Paradigms

Most integrated platforms and solutions execute via:

- Disconnected, force-fit API
- Data that doesn't inform
- Limited/absentee prediction/proactivity
- Information sans co-mingle (analysis/visualization)
- No/limited semi-automated data steps
- Failure to account for entropy/pattern of life
- Classification barriers by default as excuse
- Humans on wrong end of analysis timeline/s

Proposed Way-Ahead

Rethink data as an *opportunity* not capability problem:

- Overtly ID/embrace challenge/s to solve
- Use/reuse all data at one's disposal by default
- Increase data confidence (threat, risk, opportunity)
- Find and introduce ways for data to inform each other
- Align data resourcing to reduce on-the-fly needs
- Embrace UI/UX that is familiar and intuitive
- Integrate then sunset existing offerings
- Train, educate, certify often…and upskill

A Method to the Madness

Create access not barriers to entry:

- Establish unified security structure with known user types (single sign-on, Zero Trust)
- Acknowledge HCMC a possibility
- Employ and nurture native (not post hoc) AI/ML
- Remove APIs in lieu of data import/export
- Make data provenance a mindset
- Staff accordingly and appropriately (integrators)
- Don't fear classification obstacles
- Create true tech roadmaps that are actionable

Best Practice Philosophy

Access is everything:

- Be mission centric!
- Build and sustain a core user base
- Create logical visualizations leading to decision points
- Be vendor agnostic
- Proactively build and test models
- Consider end ensure external validity
- Scale down costs over time
- Identify and execute ongoing T&E that sticks

Thank You.

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