

Eighteenth Advanced Development for Security Applications Workshop (ADSA18):

Collection and Use of Metadata for Improving Aviation Security Systems

Workshop Objectives



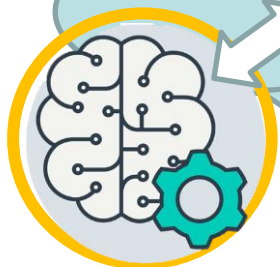
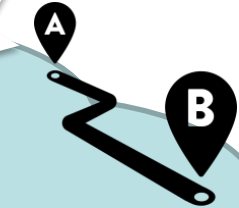
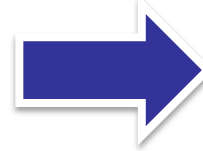
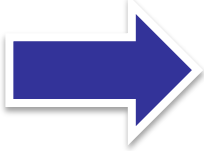
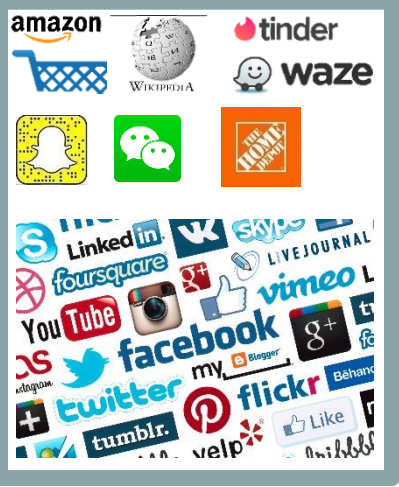
Carl R. Crawford
Csuptwo, LLC

So What? Who Cares?

- Silver bullet rare to satisfy competing goals for aviation security
 - Adaptive adversary; reduce costs; improve passenger experience
- ADOSA 18 objective
 - How additional data (metadata) can be used to augment TSA's equipment and processes
 - Examples:
 - Saving images of passengers and bags each flight and look for differences
 - Find known objects that have been tampered
 - Out of scope (assume will be solved)
 - Assessing risk for risk-based
 - Political and civil liberties

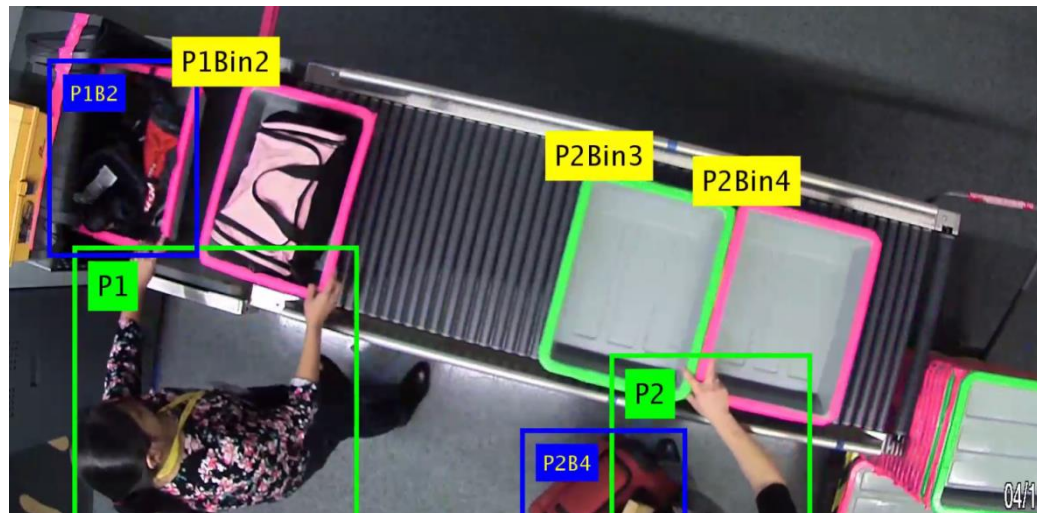
ADSA Format

- This is a workshop, not a conference
 - Speakers are instructed to begin with “So What? Who Cares?” (elevator speech)
 - Crawford bears responsibility for format (and agenda)
 - Conversation and questions are expected at all times, especially during presentations after first slide
 - Optimal presentation ends after first slide
- Public domain – no SSI or classified material
- No speaker introductions; read handouts
- The views and conclusions of the presenters at this workshop and should not be interpreted as necessarily representing the official policies, either expressed or implied, of the U.S. Department of Homeland Security and ALERT DHS center of excellence at Northeastern University.



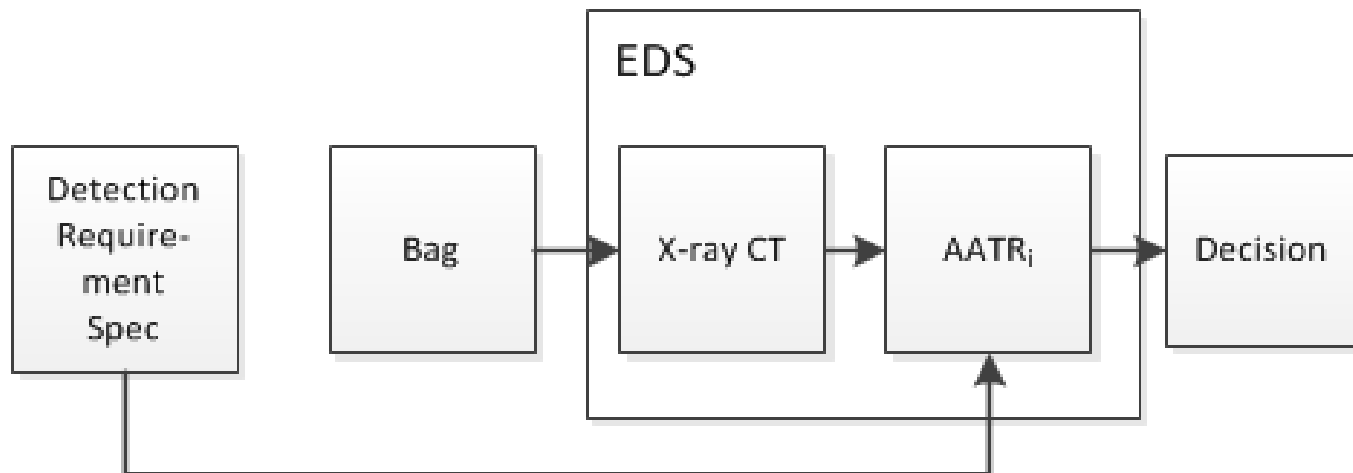
CLASP Program Review

- Thursday, May 18, Northeastern/ALERT
- Use video camera to automatically track passengers and divested items
- DHS funded
- Objectives
 - Support risk based screening with metadata collected and disseminated with tracking system
 - Locate left-behind and stolen items



AATR Program Review

- Thursday, May 18, Northeastern/ALERT
- Adaptive ATR
- DHS funded
- Objectives – Automatically adapt to new detection requirements
 - Threat types, min. mass, sheet thickness
 - PD/PFA per threat
 - Deploy in one day



ADSA-CBP01

- ADSA for DHS Customs and Border Protection
- June 20-21, 2018, [here](#)
- Scope
 - Ports of entry: mail, parcel, airports, ships, rails and land crossing
 - Transportation: aircraft, rail, cars, trucks, ships and pedestrians
 - Threats: contraband (narcotics, agriculture products and intellectual property), people
 - Stakeholders: DHS-CBP, industry, academia and national labs
 - Scanning technologies
 - Concepts of operation
 - Deterrence and hardening
 - Financial and policy implications

ADSA19

- October 16-17, 2018
- Topic: TBD

BACKUP SLIDES



Does solving one problem lead to another?

DHS Tactics

- Augment abilities of vendors with 3rd parties
 - Academia
 - National labs
 - Industry other than the vendors
- Create centers of excellence (COE) at universities
- Hold workshops to educate 3rd parties and discuss issues with involvement of 3rd parties
 - Algorithm Development for Security Applications (ADSA)
- Forage for technology in other fields

Equipment Requirements

- Probability of detection (PD)
- Probability of false alarm (PFA)
- FA resolution
- # types of threats
- Minimum mass
- Minimum sheet thickness
- Total cost of ownership
 - Purchase price
 - Siting
 - Labor
 - Maintenance
- Extensibility
- Ability to fuse
- Compatible with risk-based screening
- False alarm resolution methodologies
- Siting
- HVAC, space, weight shielding
- Throughput
- Safety

Questionnaire

- Request for everyone to answer questions preferably during the workshop
- ~10 questions – 10 minutes
- Available via Survey Monkey

<https://www.surveymonkey.com/s/ADSA18>



SurveyMonkey.com
because knowledge is everything

Minutes

- Minutes of discussion will be taken
 - Sensitive information to be redacted
- Please identify yourself and your institution first time you speak
- Suriyun Whitehead, thank you for taking minutes

Archival Materials

- Final reports and presentations from previous ADSAs
- Final reports from projects to CT-based EDS
 - Segmentation
 - Reconstruction
 - ATR

https://myfiles.neu.edu/groups/ALERT/strategic_studies/

Acknowledgements

- Northeastern University (NEU)
- Awareness and Localization of Explosives-Related Threats (ALERT) DHS Center of Excellence
- Department of Homeland Security (DHS)
- Presenters
- Participants



Acknowledgements - Logistics

- Melanie Smith, lead
- Tiffany Lam
- Deanna Beirne
- Kristin Hicks
- Anne Magrath
- Pooja Ravichandran
- Sara Baier

Final Remarks

- “Terrorism causes a loss of life and a loss of quality of life,” Lisa Dolev, Qylur
- Need improved technology
- Thank you for participating

