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Building an AI-Ready Workforce

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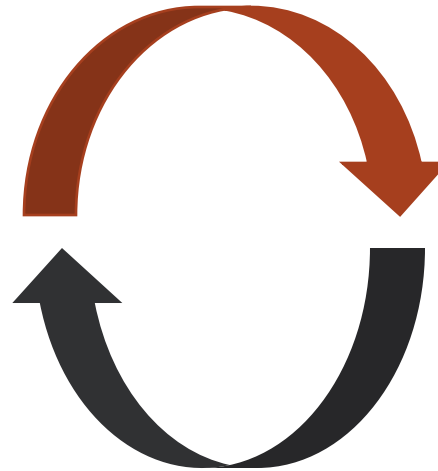


The Effects of AI on Security Professionals

Security Professional



Workload Reduction
Increase Efficiency
More Time for Analysis



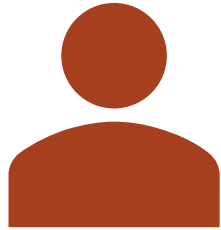
AI



Video surveillance and monitoring
Intrusion Detection
Predictive Maintenance
Response
Open-Source Intelligence
Education

The Effects of AI on Security Professionals

Security Professional

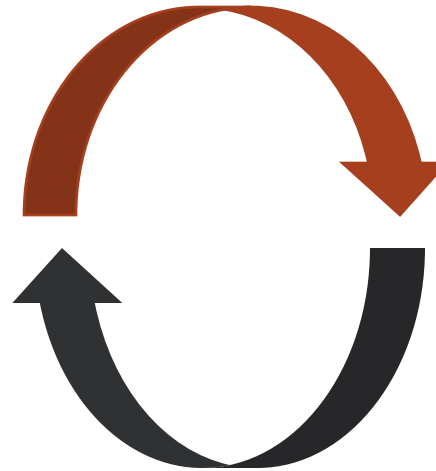


Monitoring AI Performance

Output Evaluation

Providing Feedback

Additional skill sets



AI



Video surveillance and monitoring

Intrusion Detection

Predictive Maintenance

Response

Open Source Intelligence

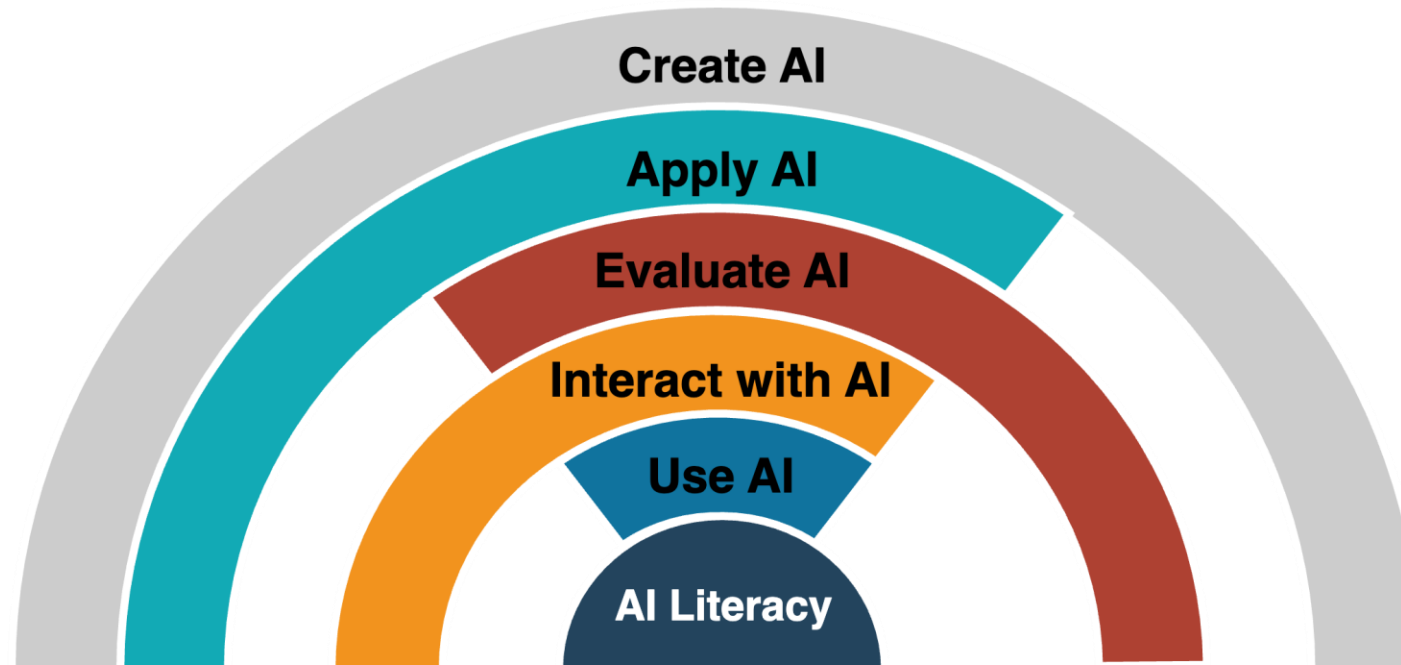
Education

AI Literacy

- "A set of competencies that enables individuals to critically evaluate AI technologies, communicate and collaborate effectively with AI; and use AI as a tool online, at home and in the workplace"
 - Long and Magerko, 2020
- This is not the same as programming literacy
- AI Literacy is a key competency for everyone as the AI landscape continues to evolve

AI Literacy

- There's a spectrum of AI literacy skills staff may need.
 - Different roles will require different levels of AI literacy depending on roles and responsibilities.
 - There may also be new roles that evolve as AI is incorporated.



AI Literacy

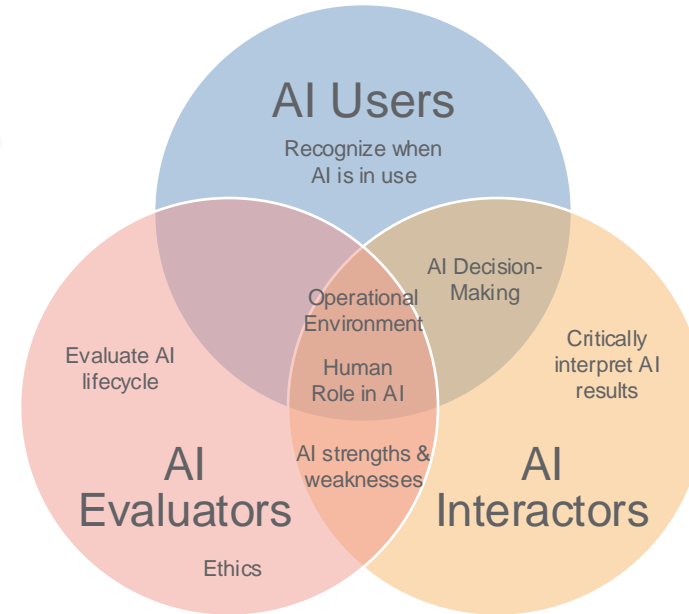
- **Create AI:** Know the fundamental theory and operations of AI, how to research and develop novel AI.
- **Apply AI:** Extending novel AI research for implementation and deployment for users; product developers.
- **Evaluate AI:** Understanding the fundamentals of AI enough to evaluate the validity and applicability of an AI product for use.
 - Here, we include ethical evaluation in this category.
- **Interact with AI:** Interface with the AI to generate results in combined, human-in-the-loop workflow. This also includes real-time quality control.
 - Examples: Chatbot interactions for knowledge retrieval
- **Use AI:** Directly use results derived from AI products with limited knowing interaction with the inner workings or underlying concepts of the AI.
 - Examples: Autocorrect, surveillance

New Responsibilities Across AI Literacy Spectrum

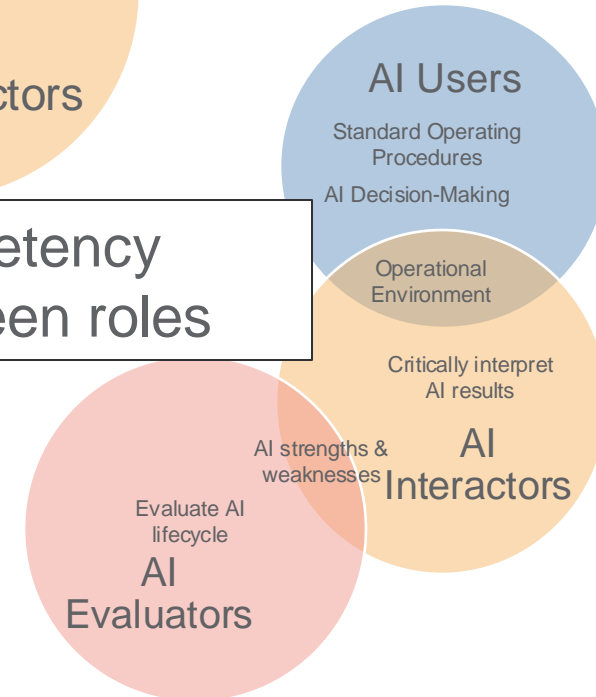
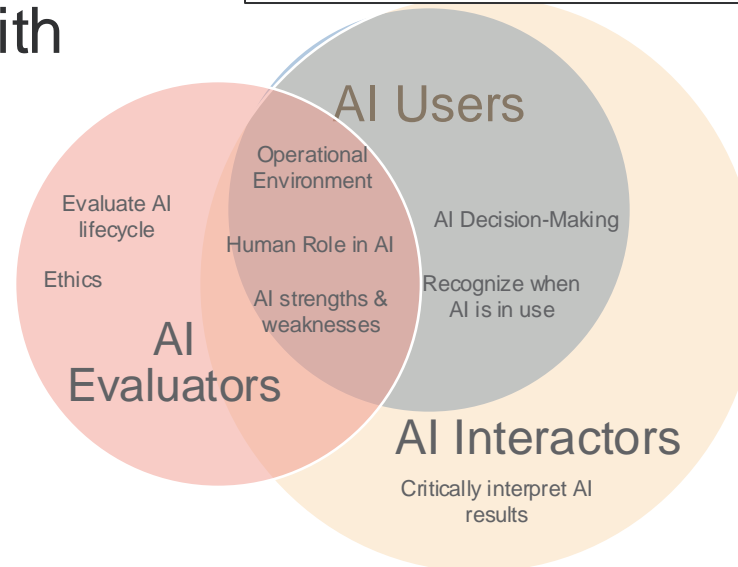
- Additional skills for **AI Users**:
 - Understanding how and where AI integrates into larger workflow
 - Appropriately using AI output
- Additional skills for **AI Interactors**:
 - Identifying signs and symptoms of AI failure
 - Understanding AI use case as designed
- Additional skills for **AI Evaluators**:
 - Understanding how and where it makes sense to integrate AI
 - Understanding AI limitations
 - Evaluating AI performance for product selection

How do we get there?

- Training *can* and *should* be different for different AI Literacy needs
- New roles, like AI Assurance Officers, may evolve as AI use increases
- Adjusting roles and expected AI core competencies to match with AI interaction will reduce the barriers to understanding and implementation for everyone



Example competency differences between roles



How do we get there?

- **AI Users:**

- Train in context with hands-on examples
- Train to identify specific cases of potential AI failure as it applies within user's workflow

- **AI Interactors:**

- Encourage training via interaction with AI inputs, outputs, and product developers
- Encourage critical thinking and train to identify signs and symptoms of AI failure
- Train to pre-empt AI failure by recognizing AI limitations

- **AI Evaluators:**

- Training should cover a variety of AI topics across the ML lifecycle
- Encourage critical examination of what defines an AI task versus a human task

Key takeaway: It will take work to implement AI safely and effectively across all roles!

Thank you



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