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2:40 PM - 3:00 PM

The Making of Operator X: The GenAI Platform to Transform Cyber at the Edge

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Abstract:

This presentation covers the challenges and evolution of SealingTech's groundbreaking Generative AI (GenAI) platform: Operator X.

Operator X uses Large Language Models (LLMs) and Retrieval-Augmented Generation (RAG) to enhance the efficiency and effectiveness of the cyber warfighter. Its direct integrations with DoD cyber tools help defenders stay ahead of adversaries and ensure the resilience of defensive operations.

SealingTech prioritizes meeting customers where they are, by integrating with and enhancing their toolsets and existing systems. This focus presents the challenge of tailoring AI for defensive cyber operations while maintaining a form factor that excels at the edge.

The team selected an agentic approach, developing agents optimized for integration with DoD tools—yet flexible enough to continuously improve functionality while adapting to evolving models. The presentation will explore how these challenges were overcome and how the solution evolved from a paradigm of fixed LoRAs to one of adaptable reasoning.

Optimizing Operator X for deployment in SealingTech's varied customer environments presented significant challenges, particularly concerning mobility and cost. Given the high price of AI-capable GPUs due to their vRAM consumption, a traditional server design posed a barrier to fielding the platform on forward-deployed missions.

The presentation will share how optimizing the selection of models via a custom testing pipeline resulted in a 3x decrease in vRAM requirements, enabling an exceptionally mobile solution.

Operator X continues to evolve and expand its reach and capabilities based on the warfighter's mission needs. The presentation will conclude with next steps for Operator X, highlighting its key position within SealingTech's Cyber Hunt Kit platform.