Cybersecurity education and training are critical in ensuring that current and future IT professionals can face the serious security threats they are and will be confronted with in an ever-increasing manner.

At CROND, the Cyber Range Organization and Design NEC-endowed chair created in 2015 at JAIST, we have already done considerable research on how to improve the education and training methodologies in the field of cybersecurity. Thus, the integrated cybersecurity training framework that we are developing, CyTrONE, provides the all necessary mechanisms for conducting hands-on training activities, in particular through the automation of the training environment setup tasks1.

In this talk, we shall first give an overview of the various issues regarding IoT security training today. Then, we shall present our approach regarding cybersecurity education and training, including the core component of CyTrONE—the cyber range instantiation system named CyRIS2. Finally, we shall discuss our ongoing work on extending the functionality of our framework to the field of IoT security training, such as methodologies for making possible training on large-scale IoT environments, and in more realistic conditions (e.g., via device emulation).

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References