# Abstract (publicly releasable)

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This proposal seeks funding to create a version of the current research-related educational materials on the public DeterLab testbed to be useful for teaching K-12 students about cybersecurity. We also seek funding to perform extensive outreach and support activities around K-12 adoption of our teaching materials.

**About DeterLab and its current educational use:** DeterLab [1, 2, 3] is a 690-node state-of-the-art scientific computing facility for cybersecurity researchers engaged in research, development, discovery, experimentation, and testing of innovative cybersecurity technology. DeterLab is a networking testbed, where users gain exclusive, root access to physical PCs, customize operating system and applications on these PCs, and arrange them into custom topologies via remote access. It is hosted at the USC Information Sciences Institute and UC Berkeley. DeterLab was established in 2004 and has operated continuously since then, under the active sponsorship by the Department of Homeland Security, the National Science Foundation and DARPA. In its 18 years of existence, DeterLab has been used by 387 research projects, from 277 institutions and involving 1057 researchers, from 209 locations and 46 countries. DeterLab has also been extensively used in education by 230 classes, from 147 institutions and involving 18,739 students. Currently, educational use accounts for 25% of total resource usage on DeterLab. DeterLab's equipment refresh was funded in 2019 by DURIP award #W911NF2010056.

**Requested funds:** We ask for funding to perform two connected activities, with the goal to support and broaden educational use of DeterLab to K-12 populations. First, we will create a version of the current research-related education materials that will be suitable for teaching K-12 students about cybersecurity. These modifications will include simplification of the current exercises and breaking them up into modules, as well as enumerating their learning goals. Second, we will perform extensive outreach to attract K-12 users via a series of webinars, and in person visits to local elementary, middle and high schools that serve underserved student populations.