

Lecture by

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On Countermeasures against the Thermal Covert Channel Attacks in Many-core Systems

In this talk, I will briefly introduce our recently proposed countermeasure against thermal covert channel attack, which leaks sensitive data in a many-core chip. The countermeasure includes detection based on signal frequency scanning, positioning affected cores, and blocking based on Dynamic Voltage Frequency Scaling (DVFS) technique. Our experiments have confirmed that on average 98% of the TCC attacks can be detected, and with the proposed defence, the bit error rate of a TCC attack can soar to 92%, literally shutting down the attack in practical terms. The performance penalty caused by the inclusion of the proposed countermeasures is only 3% for an 8×8 system



Xiaohang Wang is an associate professor at South China University of Technology. His research interests include many-core chip architecture, hardware security, networks-on-chip. He served as the co-chair of NoCArc, special session chair of NoCS 2018, and session chair of APCCAS 2018.