

## ***A demonstration of adapting HW to SW needs for network workloads***

Han Dong, Boston University

### **Abstract**

Data center applications are often single purpose, I/O intensive, and reliant on system specific optimizations such as kernel bypass or hardware offloading to get the best performance. There is an opportunity with modern unikernels to dynamically adapt the hardware to the software. We show that even with modern NICs, its device configuration has an impact on its performance for various Cloud workloads. Moreover, this opens up further questions of how one could dynamically discover the optimal device configuration for different workloads and how a device's configuration and/or features can be dynamically modified as workload behavior changes.

### **Speaker Bio**

**Han Dong** is a 5th year PhD candidate at the Computer Science department of Boston University. He is interested in Operating Systems research with a focus on HW-SW interactions for performance sensitive applications.