

# HAI D. NGUYEN

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## Education

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<b>Rutgers University</b> Ph.D. in Computer Science (GPA 3.8/4.0)	2011-Present
<b>Hanoi University of Science and Technology</b> B.S. in Information Technology	2003-2008

## Professional Experience

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### Research Associate (Hewlett Packard Enterprise, Princeton, NJ, Summer 2016)

- Designed and Implemented HRD, a system that effectively detects ransomware by leveraging hardware performance counters (HPCs) and machine learning. HRD is able to detect new ransomware with high accuracy and incurs small performance overhead.

### System Software Engineer Intern (Akamai Technologies, Cambridge, MA, Summer 2015)

- Designed and implemented a fine-grained configurable tracing infrastructure that allows network administrators to compare the behavior of a selected program on specific machines. Applied the tracing infrastructure to trace the execution of parseFF, a program that parses logs generated by Akamai's edge servers into database records.

### Research Assistant (Department of Computer Science, Rutgers University, 2012 - Present)

- Designed a framework allowing providers and clients of a trusted computing platform assisted by Intel Software Guard Extensions (Intel SGX) to establish mutually trusted services that help the provider verify the client's code for regulatory compliance. Implemented the framework atop OpenSGX, an open platform that emulates the hardware components of Intel SGX.
- Built a computing environment that allows an independent auditor to perform forensic analysis to detect violations of Service Level Agreements (SLAs) on a computing platform where the provider and the client are mutually distrusting. The system relies on tamper-evident auditing of system actions to achieve the goal.
- Built an ecosystem that supports rich cloud apps that are implemented as virtual machines (VMs) and offer standard utilities such as firewall, network intrusion detection (NIDS), storage encryption. Implemented the system atop the Kernel-based Virtual Machine (KVM) hypervisor.
- Designed and implemented a flexible and scalable inter-domain routing protocol prototype. Built the prototype system using the Click Modular Router software and validated it in a testbed of 200 machines.

### Teaching Assistant (Department of Computer Science, Rutgers University, Fall 2013 - Summer 2014)

- Data Structures, Computer Security, Internet Technology.

### Software Engineer (Viettel Group, Vietnam, December 2008 - June 2011)

- Designed and implemented a lightweight load balancing framework (LBF) that helps improve the performance of Viettel's web servers.

## Selected Publications

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- EnGarde: Mutually-Trusted Inspection of SGX Enclaves. Hai Nguyen and Vinod Ganapathy. Proceedings of the 37th International Conference on Distributed Computing Systems (ICDCS 2017), June 2017.
- Exploring Infrastructure Support for App-based Services on Cloud Platforms. Hai Nguyen, Vinod Ganapathy, Abhinav Srivastava, and Shivaramkrishnan Vaidyanathan. Computers and Security, Volume 62, Number 1, September 2016.
- MAVMM: Lightweight and Purpose Built VMM for Malware Analysis. Anh M. Nguyen, Nabil Schear, HeeDong Jung, Apeksha Godiyal, Samuel T. King, and Hai D. Nguyen. Proceedings of the 2009 Annual Computer Security Applications Conference (ACSAC), December 2009.

## Honors and Awards

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- Vietnam Education Foundation Fellowship, cohort 2011 (\$54,000 grant for two academic years 2011 and 2012)

## Skills

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- Programming Languages: C (Advanced), C++ (Advanced), Java, Python, Perl.
- Virtualization: Xen, KVM.
- Other: Hadoop, Pig.

## References

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