

PRATEEK SAHU

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EDUCATION

University of Texas at Austin

Ph.D., Computer Architecture.

August 2017 - Present

GPA: 3.89/4

Indian Institute of Technology, Kanpur

Bachelor of engineering, Electrical.

July 2011 - May 2015

GPA: 8.2/10

RESEARCH

Interests: Architecture, Systems & processor security, Hardware/Software for performance & efficiency

Detection of micro-architectural information leaks

UT Austin, Jan 2018 - present

- Micro-architectural malware detector based on resource contention
- Novel property of contention direction across security labels
- Evaluate against cache based side and covert channels like prime-probe and spectre
- Evaluation of system based on ARM v8 ISA in gem5 full system simulation
- Under submission at ISCA '19.

QoS and efficiency for serverless computing platforms

UT Austin, Sept 2018 - present

- Identify bottlenecks in a serverless platform
- Explore opportunities for better resource orchestration [[ppt](#)]

PAST PROJECTS

Verilog system design for 32-bit x86 ISA

Microarchitecture Course, Dr. Y. Patt

CPU design of a pipelined machine with memory & branch predictor for subset of x86 ISA. [[Report](#)]

Intelligent instruction duplication for side-channel defence

Security Course, Dr. M. Tiwari

Compiler solution for duplication of instructions which work on dummy data. [[Report](#)]

Low-power real-time object recognition SoC design

SoC Design, Dr. A. Gerstlauer

FPGA design and implementation of GEMM module of YOLO model. [[Report](#)]

RELEVANT COURSES

Computer Architecture
Compilers

Operating Systems
Micro-architecture

Security in HW/SW Systems
Data-Structures & Algorithms

WORK EXPERIENCE

Graduate Research Assistant at UT Austin, SPARK Lab

Spring 2018 - Current

Teaching Assistant at UT Austin, Operating Systems

Fall 2017

Member of Technical Staff at VMware India Software Pvt. Ltd

July 2015 - June 2017

- IDF for system health monitoring tool using vSphere metrics
- Public cloud cost analytics using utilization statistics
- Containerized micro-services for OTA updates to the application

ACADEMIC ACHIEVEMENTS

- Kishore Vaigyanik Protsahan Yojana fellowship by Department of Science and Technology, India.
- First position in the state of Orissa in the Regional Mathematics Olympiad 2010-11.
- National Talent Search Examination academic excellence fellowship in 2007.

SKILLS

Languages

C, C++, Java, Verilog, Python

Software & Tools

gem5, qemu, Vivado HLS, Matlab

ISA

ARM v8, x86, MIPS, 8086