PRATEEK SAHU

(737) 207-2578 ⋄ prateeks@utexas.edu

https://www.linkedin.com/in/sahuprateek/ ⋄ https://prateeksahu.github.io

EDUCATION

University of Texas at Austin   *August 2017 - Present*
Ph.D., Computer Architecture.   GPA: 3.89/4
Indian Institute of Technology, Kanpur   *July 2011 - May 2015*
Bachelor of engineering, Electrical.   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
- Opportunities for better runtime resource orchestration
- Explore bump-in-the-wire FPGA accelerator solutions to improve latency of microservices

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]

RELEVENT COURSES

Computer Architecture	Operating Systems	Security in HW/SW Systems
Compilers	Micro-architecture	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*
- Invention Disclosure Form(IDF) filed 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