

Sid Agrawal

SOFTWARE ENGINEER · GRADUATE STUDENT

Vancouver, Canada

✉ sid@sid-agrawal.ca | 🏠 sid-agrawal.ca | 📷 sid-agrawal | 📺 sidhartha-agrawal

Summary

Graduate Student pursuing operating systems research. Prior experience as a software engineer in kernel development, and DevOps roles.

Education

University of British Columbia

PH.D. IN COMPUTER SCIENCE

- Operating Systems Research at the Systopia Lab

Vancouver, BC, Canada

Jan. 2021 – present

University of Florida

MS. IN ELECTRICAL AND COMPUTER ENGINEERING

- Computer Architecture, Distributed Systems

Gainesville, Florida, USA

Aug. 2010 – Dec. 2011

BITS(Birla Institute of Technology and Science) Pilani

B.E. IN ELECTRICAL AND ELECTRONICS ENGINEERING

- Embedded Systems

Goa, India

Aug. 2005 – Aug. 2009

Continuing Education

Stanford

NON-DEGREE COURSEWORK

- Operating Systems undergraduate course (CS140)

Stanford, CA, USA

Jan. 2014 - Apr. 2014

University of California Santa Cruz, Extention Campus

NON-DEGREE COURSE WORKS

- Two courses on Linux and device driver programming

Santa Clara, CA, USA

Jan. 2012 - May. 2013

Research Experience

Systopia Lab, University of British Columbia (Advisor Prof. Margo Seltzer)

RESEARCH ASSISTANT

- Investigating the common building blocks for different isolation mechanisms like processes, containers, virtual machines. Implement a mechanism that lets the user select the desired level of isolation for a given resource without depending on the mechanisms.

Vancouver, BC, Canada

Jan 2021 - present

ASICS Lab, University of Florida (Advisor Prof. Renato Figueiredo)

RESEARCH ASSISTANT

- Investigated the feasibility of migrating the tunnel datapath from userspace to the kernel for the Edge VPN project.
- Prototyped a messaging layer to collect sensor data over a private network

Remote

Jan. 2018 – Dec. 2018

CHREC Lab, University of Florida (Advisor Prof. Ann Gordon-Ross)

RESEARCH ASSISTANT

- Evaluated approaches in bit-stream compression for partially reconfigurable systems
- The results were used by graduate students to propose better compression algorithms

Gainesville, FL, USA

Dec. 2010 – Feb. 2011

CHREC Lab, University of Florida (Advisor Prof. Ann Gordon-Ross)

RESEARCH ASSISTANT

- Evaluated approaches in bit-stream compression for partially reconfigurable systems
- The results were used by graduate students to propose better compression algorithms

Gainesville, FL, USA

Dec. 2010 – Feb. 2011

Power Anser Lab, IIT Bombay (Advisor Prof. Dr. Sanjay S Dambhar)

RESEARCH ASSISTANT

- Developed MATLAB, C and Verilog programs for multiple power surge protection algorithms and compared and evaluated their accuracy, speed, and ease of implementation
- Dr. Dambhare used results in his dissertation

Mumbai, India

May. 2008 – Jun. 2008

Work Experience

Arista Networks

Vancouver, BC, Canada

SOFTWARE ENGINEER

Sep. 2016 - Dec. 2020

- Co-developed services to store build artifacts generated in the build process
- Co-Developed a glue layer in GoLang for a NoSQL backend for a distributed build system
- Independently developed services to detect and automatically triage faulty testbeds

Panzuara

Campbell, CA, USA

SOFTWARE ENGINEER

Apr. 2015 - Aug. 2016

- Independently designed and implemented support to transactionally update file metadata for Panzura's Global Distributed File System. This heavily simplified recovery after crashes.

Oracle(Solaris Group)

Santa Clara, CA, USA

KERNEL ENGINEER

Apr. 2013 - Apr. 2015

- Enhanced the virtual memory predictor in Solaris by developing an algorithm to determine which segments in the address space can be upgraded to large pages
- Improved performance of multiple system calls by making their O() page size independent

Oracle(SPARC Microprocessor Group)

Santa Clara, CA, USA

HARDWARE ENGINEER

Mar. 2012 - Apr. 2013

- Developed C and assembly level kernels to stress test cache interconnects and database co-processor of the SPARC microprocessor

Teaching Experience

BITS Pilani

Goa, India

TEACHING ASSISTANT ENGINEER

Aug. 2008 - May 2009

- Microprocessor Programming (EEE C341)
- Analog Electronics (EEE C241)

Skills

DevOps Docker, Kubernetes, Jenkins

Programming C, Python, Golang

Kernel Linux, seL4

Honors & Awards

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| 2021 | Tuition Award, President's Academic Excellence Initiative in Ph.D. , University of British Columbia | Vancouver, Canada |
| 2021 | Tuition Award, Faculty of Science , University of British Columbia | Vancouver, Canada |
| 2010 | Achievement Award, College of Engineering , University of Florida | Gainesville, FL, USA |
| 2006 | Tuition Award, Need-based merit support , BITS Pilani | Goa, India |