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**OBJECTIVE**

To conduct research in timing-sensitive systems, and explore the issues of predictability, communication and security of systems from the perspective of timing-related controls.

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**EDUCATION**

**Boston University, USA** **Sep '16 – Present**  
*PhD, Computer Science*

- Advisor: Professor Richard West

**University of Alberta, Canada** **Sep '14 – Jun '16**  
*Master of Science, Computing Science*

- Advisors: Professor Paul Lu and Professor Di Niu

**Bengal Engineering and Science University (BESU), India** **Jul '08 – Apr '12**  
*Bachelor of Engineering, Computer Science and Technology*

- Advisor: Professor Manas Hira

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**PROGRAMMING SKILLS**

**Languages:** C, C++, Java, C#, Python, JavaScript

**Operating Systems:** Linux kernel and drivers, Android, Quest-V partitioning hypervisor

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**PUBLICATIONS**

1. Ahmad Golchin, **Soham Sinha**, Richard West, **Boomerang: Real-Time I/O Meets Legacy Systems**, in Proceedings of the 26th IEEE Real-Time and Embedded Technology and Applications Symposium (RTAS), 2020
2. **Soham Sinha**, Ahmad Golchin, Craig Einstein, Richard West, **A Paravirtualized Android for Next Generation Interactive Automotive Systems**, in Proceedings of the 21st International Workshop on Mobile Computing Systems and Applications (HotMobile 2020), Austin, Texas, USA, March 3-4, 2020, DOI 10.1145/3376897.3377861
3. **Soham Sinha**, and Richard West, **PAStime: Progress-aware Scheduling for Time-critical Computing**, 2019, arXiv preprint arXiv:1908.06211, arXiv.org (*Accepted at ECRTS 2020*)
4. Ying Ye, Zhuoqun Cheng, **Soham Sinha**, Richard West, **vLibOS: Babysitting OS Evolution with a Virtualized Library OS**, 2018, arXiv:1801.07880, arXiv.org (*currently under peer review*)
5. **Soham Sinha**, Di Niu, Zhi Wang, Paul Lu, **Mitigating Routing Inefficiencies to Cloud-Storage Providers: A Case Study**, in IEEE International Parallel and Distributed Processing Symposium (IPDPS) Workshop, May 2016, Chicago, USA

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**INDUSTRIAL EXPERIENCE**

**Intel Corporation** **Jun '18 – Aug '18**  
*Research Intern, Mentor: Dr. Ramesh Peri*

- Designed a dynamic progress-aware scheduling policy (PAStime) for mixed-criticality real-time systems to improve Quality-of-Service (QoS) of low-criticality tasks.
- Implemented PAStime in LITMUS<sup>RT</sup> and published a paper later in ECRTS 2020.

**Google Inc.** **May '17 – Aug '17**  
*Software Engineering Intern, Mentor: Dr. Harvey Tuch*

- Developed an open-source benchmarking package for the layer-7 proxy, Envoy. Available at: <https://github.com/lyft/envoy-perf>
- Wrote Python scripts to invoke Google Cloud Platform Virtual Machines (VMs) and conduct benchmarking inside the VMs.
- Incorporated new functionality in the open-source benchmarking tool, h2load and contributed to the main repository.

**Ericsson India Global Services Pvt. Ltd.** **Aug '12 – Jun '14**  
*Solution Integrator*

- Developed a web-application in C# language on .NET platform using the Model-View-Controller (MVC) architecture to manage time-sheet of nearly 2,000 employees.
- Improved performance of the web-application by reducing the rendering time of web-pages by 30% and by implementing caching on client-side.
- Developed two modules in JavaScript for displaying employee-hierarchy in tree-view and customized check-boxes.
- Developed one independent Windows application in C# to reduce the wastage of bandwidth by suspending unwanted processes. The application was nominated for Ericsson Innovations.

## ACADEMIC EXPERIENCE

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### Teaching Assistant

- Computer Systems (CS 210) - Fall 2017, 2019 - Boston University
- Introduction to Computer Science (CS 101) - Fall 2016, Spring 2017 - Boston University
- Operating System Concepts (CMPUT 379) - Fall 2015, Winter 2016 - University of Alberta
- Introduction to Computing (CMPUT 101) - Winter 2015 - University of Alberta
- Practical Programming Methodology (CMPUT 201) - Fall 2014 - University of Alberta

### External Reviewer

- *IEEE International Conference on Computer Communications (INFOCOM)* 2016
- *IEEE INFOCOM SDP Workshop* 2016
- *IEEE Real-Time and Embedded Technology and Applications Symposium (RTAS)* 2018, 2019
- *IEEE Real-Time Systems Symposium (RTSS)* 2019
- *Operating Systems Platforms for Embedded Real-Time applications (OSPERT)* 2019

## POSITIONS OF RESPONSIBILITY

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- President** 2015 – 2016
  - **Indian Students' Association**, University of Alberta
- Coordinator** of *Programista*, the Programming Competition 2011
  - **Instruo**, the Annual Techno-management Festival of BESU
- Executive Member** of *Event Management Committee* 2011, 2012
  - **REBECA**, the Annual Cultural Festival of BESU
- Web and Technical Coordinator** 2012
  - **REBECA**, the Annual Cultural Festival of BESU
- Cultural Secretary** 2011 – 2012
  - **COENSOBEC**, the Computer Engineers' Society of BESU