300 Governor
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Saim Salman

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Education

Brown University, USA **Aug 2017 – Present**

- MS Computer Science. GPA: 4.0/4.0 (Expected May 2021)
- *Graduate Coursework*: Deep Learning; Topics on Networks and Distributed Systems; Topics in Software Security; Probability for Computing; Privacy-Conscious Computer Systems; Distributed Systems at Scale.

LUMS, Pakistan **Aug 2013 – May 2017**

- BS Computer Science. GPA: 3.79/4.0
- *Relevant Coursework*: Software Engineering; Artificial Intelligence; Advanced Programming; Databases; Computer Architecture; Theory of Automata; Computer Networks; Applied Probability.

Employment

Software Engineer Intern **Google** **Summer 2019**

- Developed Tratis; a tool that allows one to generate models for service-mesh (Istio) enabled applications. (Go, Python)
- Extended Isotope; an open-source bench-marking framework (for microservices) to be able to simulate the generated models by Tratis for bench-marking. (Go, Python)

Graduate Research Assistant **Brown University** **Aug 2017 – Present**

- Researched on applying ML techniques to configuration tuning for microservices to improve performance. (Go, Python)
- Researched and came up with a design for a multi-controller SDN system which supports different consistency models for SDN applications. (Java)
- Implemented a system which leverages reinforcement learning to automatically design (re-configurable) optical data centers. (Python, Tensorflow)

Research Intern **LUMS** **May 2015 - May 2017**

- Implemented a system to thwart side-channel attacks (shared server and network resources) by continuously migrating entire virtual networks over physical networks. (Java, Bash)
- Improved ToRs end-to-end latency by introducing application awareness to circuit selection. Furthermore, we also came up with a novel technique to measure circuit health. (Python)
- Helped in designing a service differentiation scheme for high speed WLANs that simultaneously maximises the performance of real-time applications and network throughput. (C/C++, Bash)

Teaching Assistant **LUMS / Brown** **May 2015 - Present**

- Discrete Mathematics (UTA), Data Structures (UTA), Networks (UTA), Distributed Systems at Scale (GTA).

Projects

- **GDPR Compliant Microservices** Leveraged Istio to show how one satisfy some of the rules mandated by the GDPR for microservices. (Python, Bash)
- **Visitor Entry System** Developed a visitor entry system for universities. (Django Framework, Python)
- **C++ Interpreter** Wrote an interpreter for basic C++ constructs. (Python)
- **Reversi** Implemented an online multiplayer reversi game with client and server fault tolerance. (Node.js)
- **Nachos** Wrote code to implement scheduling, basic system calls and multi-programming in NachOS. (C/C++)

Publications

- **Topology Augmentation Meets Machine Learning** (ACM Sigcomm OptSys 2020)
  Saim Salman, Theophilus Benson
- **Automating Data Center Network Topologies Management with ML** (ACM Sigcomm NetAI 2018)
  Saim Salman, Chris Streiffer, Huan Chen, Theophilus Benson, Asim Kadav
- **Service Differentiation Scheme for High-Speed WLANs using Dual Radio APs** (ACM CoNEXT 2016)
  Kamran Nishat, Farrukh Javed, Saim Salman, Nofel Yaseen, Ans Fida and Ihsan Qazi

Skills

- **Main Languages:** C, C++, Go, Python, Java, Haskell, Node.js.
- **Other Languages:** Tensorflow, P4, Matlab, MySQL, HTML, JavaScript, NodeJS, Bash
- **Technologies:** AWS, GCloud, Kubernetes, Istio, Open vSwitch, Emulab, Floodlight, Unity.