

Sumukha Tumkur Vani

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Education

- Aug - May* **Master of Science, Computer Science**
2016 - 2018 Brown University, USA
Courses: Computer Networks, Algorithms, Computational Linguistics, Advanced topics in Networking and Distributed Systems
- Sep - Jun* **Bachelor of Engineering, Computer Science and Engineering**
2010 - 2014 University Visvesvaraya College of Engineering, India

Professional Experience

- May - Sep* **Software Developer Intern, Oracle America, Inc.,** Nashua, NH, USA
2017 - 2017 *Oracle Clusters and Parallel Storage*
- Involved in the development of a dev tool to analyse *cluster file system crash*
- Worked with *crash (Linux) / mdb (Solaris) / kdb (AIX)*
- Reduced system crash analysis time significantly
- Dec - May* **Research Assistant, Brown CS,** Providence, RI, USA
2016 - 2017 *BrownSys: Systems Research Group @ Brown CS*
- Involved in the [I-STORE project](#) under the guidance of [Prof Rodrigo Fonseca](#) and [Prof Carsten Binnig](#)
- Optimizing distributed database design to harness the capabilities of RDMA
- Exploring ways to speed up distributed ordered indices using RDMA over Infiniband
- Jul - Aug* **Software Developer, Oracle India Pvt Ltd,** Bangalore, India
2014 - 2016 *Oracle Virtual Networking*
- Involved in the development of device drivers for Infiniband (IB) host channel adapters (HCA)
- Developed a Performance Analyser to profile the IO performance of IB HCAs
- Developed a Command Line Interface tool for Solaris to interact with IB HCAs

Technical Skills

- Programming* C, Python, Rust, Java, C++, Javascript
Database MySQL, MongoDB
OS Solaris, Linux, Windows

Projects

- Systems* **The Dawn of High Performance Networks**
- A distributed in-memory database architecture for high performance networks like RDMA
- Stores data in a fashion that is tailored for one-sided RDMA
- Intelligently prefetches data and caches it
- Computer* **TCP over IP**
Networks - Implementation of RFC compliant TCP over IP
- Exposes Transport Layer socket APIs which can be used by applications
- Developed using Rust programming language
- Computer* **Internet Protocol over UDP**
Networks - A virtual IP Network with UDP as the link layer
- Uses Routing Information Protocol for routing decisions
- Developed using Rust programming language

Awards and Honors

- Jan 2016* **Best Hack** - The Under25 Summit Hackathon.
Feb 2015 Winner of Cisco Hackathon 2015.
Nov 2014 **Excellent Paper Award** and **Gold Medal** for the research paper titled "*DSWSD: Double Sliding Window for Secure Data Transmission in WSNs*", at the International Conference of Science, Technology, Engineering and Management, Singapore.
June 2014 **Best Under Graduate project** for "*Adaptive Load Balancing Protocol for Service Oriented Wireless Sensor Networks*"
Dec 2013 Winner of SAP Lumira University Challenge 2013.