VENKATA KRISHNAN

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EDUCATION

M.S. in Computer Science	SUNY Buffalo	Buffalo, NY, USA	Graduating - Dec 2018	Aug 17 – Dec 18
B.E. in Electronics & Communication Engg.	Mepco Schlenk Engg. College	Sivakasi, India	2009 - 20

WORK EXPERIENCE: 4 YEARS

Big Switch Networks | Software Engineering Intern | Santa Clara, CA   May 2018 – August 2018

Port Mirroring to SDN Controller:
- Implemented SPAN (Switched Packet Analyzer) to SDN controller feature for the Big-Cloud Fabric SDN controller.
- Built the infrastructure for the storing and streaming of the spanned traffic.

Brocade Communications | Software Engineer | Bangalore, India   April 2016 – July 2017

Virtual-LAG:
- Implemented Virtual-LAG on Brocade's Fast-Iron Family Routers

Layer-2 Networking Protocol Support:
- Worked on Layer-2 Networking protocols (VLAN, xSTP, dot1-BR) for Brocade's Fast-Iron Family Routers

Aricent Inc. | Software Engineer | Chennai, India   Sep 2013 – April 2016

Multi-Chassis Link Aggregation:
- Designed and developed Multi-Chassis Link Aggregation framework
- Improved the legacy base code in Layer2, Layer 3 Networking protocols (LAG, VRRP, VLAN)

Router-port Implementation on Broadcom:
- Designed and Implemented the Router-port feature over the Broadcom Chipset and awarded "**Individual Excellence Award**"

Netconf, CLI & Open Source:
- Successfully refactored portions of the CLI (Command Line Interface) code for robustness and scalability
- Designed and Integrated open source Netconf Protocol code with Aricent's Switching Software

HTML Generation Tool:
- Developed and maintained the Routing Software's Web-Interface Generation tool and **increased speed by 100x**

ACADEMIC PROJECTS

- **Interplanetary File System – Java**: Implementing the content addressable Interplanetary File-system (IPFS) on Java at UB
- **Distributed Key-Value Storage (Amazon Dynamo) – Android, Java**: Implemented a failure resilient distributed key-value storage inspired by Amazon Dynamo that provides Linearizability and availability
- **Distributed Hash Table (Chord) – Android, Java:** Implemented a distributed hash-table based on Chord that provides node joins, ID space partitioning and ring based routing
- **Group Messenger on Android – Android, Java:** Implement an Android Group Messenger that offers Total FIFO Ordering
- **Priority/MLFQ Scheduler – C**: Implemented a Priority scheduler using priority-donation to solve priority-inversion and Multilevel feedback queue scheduler to reduce average wait time for threads in Pint-OS
- **Syscall-Infra & Virtual Memory– C**: Implemented system calls, user program support & virtual memory Infra for Pint-OS
- **Reliable Data Transfer Protocols - C**: Implemented Alternating Bit, Selective Repeat and GoBack-N Protocols
- **Software Defined Networking - C**: Implemented a Distance Vector routing protocol over simulated routers
- **Exploratory Data Analysis - R**: Analyzed Influenza Outbreak by performing Exploratory data analysis by extracting tweets by using Twitter REST APIs and comparing the data with Official Influenza Statistics
- **Data Analytics Pipeline using Apache Spark - Python:** Implemented data acquisition & analytics pipeline to fetch articles using NY-Times API. Used Hadoop MapReduce and Apache Spark to build article classification model
- **2048 Game Solver - Python**: Implemented an AI Based 2048 Game Solver using min-max algorithm and alpha-beta pruning

SKILLS

Programming:	C, Python, Java, R, HTML, PHP, Javascript, CSS, Shell, C++, JS, Mysql
Technologies:	Layer 2/Layer 3 Networking Protocols, SDN, Blockchain, Hadoop, Android, CVS, Git, Apache, Cloud
Tools:	GDB, Valgrind, Coverity, Wireshark, Android Studio, WordPress, R Studio, Jupyter

ADDITIONAL EXPERIENCE AND AWARDS

- **Blockchain Buildathon: April 2018: 1st Place** for **Blockchain** based distributed Supply Chain solution developed for Praxair
- **Individual Excellence Award:** Awarded for the project "Router-port implementation on Broadcom"
- **Best Technical Project Award:** Awarded for Implementing Session Initiation Protocol over TCP/UDP
- **Motorola Scholar Awards: 2011-12:** Won **3rd Prize** out of 100+ projects for Automated Wheelchair Project
- As a freelancer, developed multiple web-based solutions for clients across the globe through Upwork