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Samyukta Satish Rao

Looking for full-time opportunities starting May 2017

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EDUCATION

University of Southern California — **Los Angeles, CA**
Viterbi School of Engineering, Graduate program in Computer Science | 3.65 GPA — May 2017

People's Education Society Institute of Technology — **Bangalore, India**
Undergraduate program in Computer Science | 9.27 GPA — May 2015

WORK EXPERIENCE

Internship at Door of Clubs, Inc. — **Summer 2016**

- Worked on a Java based resume parser involving technologies like GATE and ANNIE to extract relevant data to enhance resume upload process. Built a REST based framework to connect the java application to Amazon S3 and a web hook to ping the platform when processing is completed. Provided start/stop/restart functionalities with init.d scripts on the UNIX platform to further assist in making the process easier.

Internship in the IT-Apps Department at Juniper Networks, Pvt Ltd, India — **Jan-May, 2015**

- I was involved in the development employee-centric application to manage trouble tickets within the company which gave me hands-on experience with amazon AWS and NodeJS.
- I helped the team with research on opensource monitoring tools and helped them identify the tools that were appropriate in the line of work.
- I was a team player and was a part of the POC for launching putty from browser for windows, Linux and Mac environments.

Summer Internship at the Centre for Cloud Computing and Big Data, Dept. of Computer Science Engineering, PESIT — **June-August, 2013**

- Research project on Auto-scaling of Hadoop on OpenStack environment. It deals with the concerns of scaling and scheduling – two core concerns of deploying hadoop on cloud, due to the magnitude of data it handles.
- It deals with the storage modules that use the motto 'move the compute to the data rather than the data to the compute.
- It provides an efficient way for industries to use open source cloud platforms like open stack and save costs as the other cloud platforms have the pay per use models.

SKILLS AND LANGUAGES

Operating Systems: Windows/Linux; **Programming languages:** C/Python/Java/HTML/CSS/JavaScript/PHP/MySQL
Other: Hadoop/Openstack /Apache/Wireshark/Cisco Packet Tracer

RESEARCH INTERESTS

Applied Cryptography (CSCI531) Computer Networks (EE450) Internetworking and Distributed Systems (CSCI558L)
Operating Systems Cloud Computing and Big Data

PROJECTS (git handle: samyuktr)

Custom protocol for reliable file transfer using UDP over lossy link — Fall 2016

- UDP was enhanced to enforce reliability (checked using md5sum) and increased throughput and large files of size 1G were transferred over 100Mbps 200ms RTT 20%loss link with a throughput of 34Mbps without any loss. The protocol was tested by varying traffic parameters as well.

Socket Programming — Spring 2016

- Implementation of TCP stream socket with the following functionalities – a) File type request - The client gives the file type of the file provided by the client. b) Checksum - MD5 checksum of the file provided by the client is computed. c) Download - Given file is downloaded from the server. Large file sizes were also handled.

Event—driven simulator to simulate an Ethernet link. — Spring 2016

- Ethernet link simulator that handles packets arriving in deterministic, exponential and trace driven modes.

Visual Cryptography, Cryptanalysis and Simulation of the Openssl base64 commands — Spring 2016

- Visual cryptography using Doug Stinson's cryptography technique to encrypt merge and decrypt binary files using MD5 checksum for key generation. Cryptanalysis using the classic classical polyalphabetic substitution cipher. Kasiski's method, average index of coincidence and auto correlation methods have been used.

DES and AES Encryption Schemes — Spring 2016

- Implementation of DES and AES encryption schemes coded in C.

Weather Application — Fall 2015

- Two projects – a Web based responsive application and an Android application. Both of these include the following - REST API calls to forecast.io API, AJAX functionality, hosted on AWS server, includes a map view of the location that is searched for, option to post on Facebook and a variety of other features.

First step towards developing a smartJacket — Jan-May 2015

- SmartJacket, a prototype to detect stress levels in a working individuals, is a wearable device, a jacket with sensors in the glove area that monitors the stress levels of an individual based on his physiological features and provides possible solutions.
- Awarded best project at the annual inter college science fest – Prakalpa, 2016, PESIT, Bangalore.

Java applet for the demonstration of ARP protocol for the Kurose-Ross website. — Summer 2014

- The aim of the applet, designed for the Kurose-Ross website, was to provide for a visualization of the ARP protocol to aid in its understanding, to go in tandem with their textbook. The applet is descriptive and is coded in Java. Provisions to control the packet movement speeds are given, for users to better understand the address resolution phase and shows how various protocols are applied to packets at each layer, giving the user an overall understanding of the packet transfer from source to destination hosts.