

# RAHUL SUNDARESAN

I am a graduate student currently pursuing a MS degree in Computer Science at UNC Charlotte. My interests lie in computer networks and web development with React. I am looking for remote software development opportunities for Fall 2020

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## EDUCATION

M.S. Computer Science GPA: 3.6/4.0

University of North Carolina at Charlotte

📅 2019–Current

📍 Charlotte, North Carolina

B.Tech Computer Science GPA: 6.9/10.0

SASTRA University

📅 2015–2019

📍 Thanjavur, India

## PROFESSIONAL EXPERIENCE

Research Assistant

University of Nevada at Las Vegas

📅 June 2020–Current

📍 Las Vegas, Nevada

- Collaborated with Dr. Yoohwan Kim and Dr. Ju-Yeon Jo in researching the effectiveness of Multipath TCP in improving bandwidth
- Deployed network simulations to measure the throughput under varying latency and loss rate for single-path and Multipath TCP networks
- Processed the output of iperf3's JSON results and graphed the data to visualize trends in throughput.

• Stack: Python Mininet Plotly pandas

Software Development Intern

Capgemini Technology Services (Storage and Infrastructure team)

📅 November 2017–December 2017

📍 Bangalore, India

- Augmented an in-house software written with PHP with the ability to create and manage Rundeck jobs using the Rundeck API
- Implemented single sign-on between rundeck and the inhouse software which allowed for a faster and more secure way of signing into Rundeck

• Stack: PHP Rundeck

Software Development Intern

Perpetuuiti Technosoft

📅 November 2016–December 2016

📍 Chennai, India

- Built an application with a GUI using the *Eldos Callback Filter* to track changes to files and rollback changes occurring in the Windows filesystem using C++ which served as a backup solution as a part of Perpetuuiti's portfolio

• Stack: Windows API C++

Network and Sysadmin Intern

Pat & Venky

📅 January 2016–Current

📍 Chennai, India

- Set up a NAS along with a backup system for collaboration
- Deployed IPv6 for end clients along with proper firewalling
- Upgraded the network to use Unifi hardware and set up appropriate VLANs for management, different departments and the CCTV network
- Setup a cloud hosted Unifi controller on google cloud platform (GCP) and set up appropriate firewall policies for the VM

## PROJECTS

**Portfolio** - Built a personal website using Gatsby with continuous deployment on Netlify. The PDF version of my resume on the site is automatically generated using  $\LaTeX$  with GitHub actions. The website automatically pulls the latest resume from the latex resume repository whenever a commit is made to the  $\LaTeX$  resume repository.

**Teammaking** - Developed a full stack application that generates teams based on a survey taken by the students. Final project for my Software design course. Built using React, Node and using MySQL as the database

**Network ranger** - Refactored and code reviewed a Discord bot that manages user roles and permissions in a discord server. I also optimized a docker workflow to ship the bot as a docker image. Currently working on a website for the server that uses the discord OAuth2 API for login. The bot is built using python and mongoDB

**Network-gui** - Created a React app that visualizes a network topology by querying a SDN switch and using react d3 to plot the nodes

**TCP over UDP** - Implemented the TCP go-back-N and selective repeat protocols over UDP. Written in python

**Tiny HTTP system** - Implemented a very basic HTTP client and server which supports PUT and POST requests (with file transfer too!)

**Agency spotter scraper** - Wrote a Python and bash script to scrape the agency spotter website, and process the results as a csv

## SKILLS

Programming

LaTeX

Python 3

Java (Android Development)

React

Gatsby

$\LaTeX$

Tools and technologies

Git

REST APIs

IPv6

Software Defined Networks (SDN)

Mininet

Netlify

GitHub Actions