RAHUL SUNDARESAN

Graduate student currently pursuing Masters in Computer Science at UNC Charlotte. My interests lie in computer networks and web development with React. Actively looking for full time software development opportunities starting Summer 2021.

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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–August 2020   📍 Las Vegas, Nevada

- Collaborated with Dr. Yoohwan Kim and Dr. Ju-Yeon Jo in researching the effectiveness of Multipath TCP in improving TCP throughput.
- Deployed network simulations to measure the throughput under varying latency and loss rate for Singlepath 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 Engineering Intern
Capgemini Technology Services (Storage and Infrastructure team)

📅 November 2017–December 2017   📍 Bangalore, India

- Augmented an in-house software with features to automate system administration tasks.
- Implemented automated sign-in between Rundeck and the in-house software which bolstered the security of the application.
- Stack: `PHP` `Rundeck`

Software Development Intern
Perpetuuiti Technosoft

📅 November 2016–December 2016   📍 Chennai, India

- Built a GUI application that tracked changes to files and recreated the differences which was used as a part of their Backup Software portfolio
- Stack: `Windows API` `C++` `CBFS Filter`

Network and Sysadmin Intern
Pat & Venky

📅 January 2016–Current   📍 Chennai, India

- Decommissioned an aging Windows based fileshare system and deployed a NAS for collaboration which drastically improved productivity and security.
- Configured fileshares with access based controls preventing unauthorized access to proprietary business data.
- Deployed a backup strategy which increased business data resiliency.
- Set up separate VLANs, creating a secure and faster network which increased employee performance
- Set up a cloud hosted Unifi controller on google cloud platform (GCP) and configured appropriate firewall policies for the VM to allow for centralized deployment of future sites and reduce CAPEX costs.

PROJECTS

Website Portfolio
- Built a personal website using Gatsby with CI/CD on Netlify.
- The PDF resume on the site is written in LaTeX and generated with GitHub actions
- The website automatically integrates the latest version of the resume whenever a commit is made to the LaTeX repository using GitHub Actions.

Teammaking
- Developed a full stack application that generates teams based on a survey.
- Collaborated with other developers following an agile development methodology and built using React, Node and mySQL.

Network ranger
- Refactored the code base and code reviewed a Discord bot that manages user roles and permissions in a discord server.
- Optimized a docker workflow to prevent a security breach.

Network-gui
- Created a React app queries a SDN switch and uses react-d3-graph to graph the topology of the network.

TCP over UDP
- Implemented the TCP go-back-N and selective repeat protocols over UDP.
- A toy project written in python to better understand the implementation of TCP.

Tiny HTTP system
- Implemented a very basic HTTP client and server in less than 100 LoC combined which supports PUT and POST requests with file transfer.

Agency spotter scraper
- Designed a pipeline to scrape the agency spotter website using Python's Beautiful Soup library and a bash script.

SKILLS

Programming

`Python` `React` `LaTeX` `Java (Android Development)` `Javascript`

Tools and Libraries

`React` `Software Defined Networks (SDN)` `Gatsby` `Git` `REST APIs` `IPv6` `Mininet` `Netlify` `Plotly` `pandas` `react-d3-graph` `GitHub Actions` `Agile Development`