Aman Khalid

Graduate student at Northwestern University with 2 years experience of building scalable applications

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Chicago, Illinois

Education

Northwestern University (Evanston, Illinois)
Master in Computer Science   SEP 2021 - DEC 2022

Saint Louis University (Saint Louis, Missouri)
Master in Computer Science   AUG 2019 - MAY 2021

Amity University (Noida, India)
Bachelor in Computer Science and Engineering   AUG 2013 - MAY 2017

Experience

Northwestern University (Evanston, Illinois)

Graduate Researcher   SEP 2021 - DEC 2022

- Implemented a platform for monitoring the Global Submarine Cable Network, using RIPE Atlas
- Created a pipeline for classifying and monitoring 505 submarine cables deployed worldwide
- Launched large scale internet measurement campaign using Azure and AWS, to observe international connectivity of popular IaaS providers.

Saint Louis University (Saint Louis, Missouri)

Research Assistant   OCT 2019 - MAY 2021

- Created a pipeline for analyzing ultrasound images in real-time using segmentation in Java and C++
- Implemented real-time resource allocation for streaming and segmentation using Kubernetes and Docker
- Published work in IEEE NFV-SDN 2020 sponsored by Huawei and Intel, on optimizing distributed systems

Marsplay (New Delhi, India)

Backend Developer   OCT 2017 - NOV 2018

- Developed server-side APIs to facilitate communication between various services of the backend, in node.js
- Scraped websites with Python to gather inventory details for 8 categories from e-commerce sites for clothing
- Made microservices for order management, for both influencers and customers

MYOLO (New Delhi, India)

Fullstack Developer   JUL 2016 - SEP 2017

- Worked on the backend to implement interest mapping, location services, and caching, with low latency
- Simplified the setup & maintenance of staging, development, and production environments hosted on AWS
- Coordinated API provisioning with Java Spring and versioning for outsourced client-side app developers(mobile).

Skills

Programming Languages: Python, Java, golang, javascript, C++, HTML
Frameworks: Django, react.js, node.js, Spring MVC, Flask
Database: MongoDB, MySQL, Redis
Others: Linux, Docker, Nginx, Kubernetes, AWS, Azure

Projects

RAFT implementation in golang - Implemented an asynchronous distributed consensus protocol, written in golang, to support log replication, data consistency and arbitrary failures.

Optimized Cuckoo Filter (St. Louis University) - Built a variant of a cuckoo filter for burst tolerance, low latency, and throughput for membership testing, optimized for distributed data stores operating at high workloads written in Java.

Influencer Hunter (Marsplay) - Developed a tool to find the most prominent profiles under a certain hashtag or location on Instagram and analyze their reach, with web scrapers(python) for data gathering.

Publications

EdgeEcho: An Architecture for Echocardiology at the Edge, Aman Khalid, Flavio Esposito, Alessio Sacco, and Steven C. Smart, In IEEE 17th International Conference on Network and Service Management (CNSM 2021). Izmir, Turkey 25-29 October, 2021; (short paper).

Optimized Cuckoo Filters for Efficient Distributed SDN and NFV Applications, Aman Khalid and F. Esposito, 2020 IEEE Conference on Network Function Virtualization and Software Defined Networks (NFV-SDN), 2020, pp. 77-83, doi: 10.1109/NFV-SDN50289.2020.9289870.

Enabling High-Performance Applications at the Network Edge Aman Khalid (2021), Master's thesis, Saint Louis University.