Md Rajib Hossen

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Summary

Cloud Engineer with 5+ years of research experience in Cloud, HPC, Machine Learning, and Distributed Systems. I'm looking for exciting and unprecedented challenges to bolster my knowledge and skills.

Education

Ph.D. in Computer Science | The University of Texas at Arlington | Arlington, TX   **Expected Graduation: May 2024**

GPA: 4.0/4.0 | Relevant Courses: Advanced Algorithms; Machine Learning; Cloud Computing; Distributed Systems

B.Sc. in Computer Science | Khulna University of Engineering & Technology | Bangladesh   **May 2015**

GPA: 3.63/4.0 | Relevant Courses: Data Structure; Algorithms; Machine Learning; Data Mining

Research and Work Experiences

Computing Scholar Intern | Lawrence Livermore National Lab | Livermore, CA   **May 2023 – August 2023**

- Improve the end-to-end runtime of HPC scientific workflows by enabling elasticity and running them in the cloud.
- Studied HPC applications scalability behavior to understand their performance when running in the cloud (AWS).
- **Kubescaler:** Developed a tool and scripts to perform scalability, deployment of EKS cluster, managed node groups, flux (HPC Framework) operator, cluster autoscaling, application oriented autoscaling, and HPC-Cloud integration.
- **Flux-Terraform:** Developed terraform script to automate the deployment of Kubernetes (k3s) with ML/HPC framework tasks. The framework can decide to execute tasks inside Kubernetes to take advantage of autoscaling.

Graduate Student Researcher | The University of Texas at Arlington | Arlington, TX   **Aug 2018 – Cont**.

- Reduced CPU resources of microservices by 33% compared to commercial resource managers (e.g., Kubernetes)
- Improved energy savings by 20%, execution time by 25% of mobile apps by developing a mobile edge offloader.
- **PEMA:** Developed a resource autoscaler on top of Kubernetes that autoscale resources of containers based on custom metrics using Prometheus, Service Mesh, and finds efficient resource allocations for microservices.

Software Engineer | Goava Sales Intelligence AB | Dhaka, Bangladesh   **Jan 2018 - July 2018**

- Accelerated development phase and conserved resources of the company by introducing APIs for providing personalized recommendations, custom filtering, and targeted companies for B2B.
- **Data Processing Pipeline:** Developed an API Server that provides results of queries from Elasticsearch and S3, and applies Machine Learning to satisfy client requirements.

Software Engineer | IPvision Soft Ltd | Dhaka, Bangladesh   **Sep 2016 - Dec 2017**

- Improved the efficiency of an on-prem cluster deployment of 50 Node by 75% using automation scripts in Python.
- Reduced cloud computing cost by 83% compared with Amazon AWS by deploying a private cluster using OpenStack.
- **Private Cloud Deployment**: Wrote automation scripts in python to deploy private cloud using OpenStack, Ceph storage system integration, Hadoop Cluster deployment. Developed monitoring dashboard for cloud resources.

Jr. Software Engineer | Workspace Infotech Ltd | Dhaka, Bangladesh   **July 2015 - Aug 2016**

- Delivered mobile application backend several weeks earlier than the deadline, boosted client's business.
- Proven Adaptablity in software development by working with back-end and front-end systems simultaneously.
- **Ezeepix:** Contributed as a back-end developer to develop a complete mobile and web application. The application provides photo printing services for users with their own pictures and preview the final product before ordering.

Skills

- **Programming Languages**: Python, Bash, SQL, C++, Java
- **Tools and Technologies**: Kubernetes, Docker, Terraform, Prometheus, Linux, AWS, GCP, Hadoop, Django

Extra-Curricular

President – **Bangladesh Student Organization at University of Texas at Arlington**   Aug 2021 – July 2022