ROSHAN SUWAL

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RESEARCH INTERESTS

- Distributed System, Resource Scheduling in Cloud, Big Data and Artificial Intelligence

EDUCATION

University of Texas at Arlington *Jan 2024 - Present*
PhD, Computer Science
Advised By: Dr. Hong Jiang and Dr. Hao Che

Tribhuvan University, Institute of Engineering (IOE), Kathmandu, Nepal *Nov 2016 - Apr 2021*
Bachelor's Degree in Electronics and Communication Engineering

EXPERIENCES

ACES LAB, University of Texas Arlington, Arlington, Texas, USA *Jun 2024 - August 2024*
Graduate Research Assistant

- Researched of resource scheduling for microservice application to meet the tail latency of request through request scheduling.

University of Texas at Arlington, Arlington, Texas *Jan 2024 - Present*
Teaching Assistant (Computer Science and Engineering Department)

- Contributed to the development of course material and course project for graduate-level course CSE 6353

GrowByData Service Pvt. Ltd, Lalitpur, Nepal Feb 2023-Aug 2023
Data Engineer

- Created and maintained data pipelines for marketing data to enhance SEO, focusing on data ingestion, ETL processes, and visualization in the data lake.

Ekbana Solutions Pvt. Ltd, Lalitpur, Nepal Apr 2021-Jan 2023
Big Data Developer

- Designed database architectures and models, managed migrations through both existing tools and custom solutions, and developed, installed, configured, and supported big data applications while ensuring security and data privacy.

PROJECTS

Lightweight Distributed Message Queue System (GitHub) Oct 2021-Mar 2022

- Developed a resource-efficient distributed event streaming platform using a master-slave architecture, enhancing data pipeline performance and stream analytics capabilities.

Non-intrusive Blood Glucose Monitoring with Smartphones Nov 2019-Oct 2020

- Conducted a research project utilizing deep learning techniques to forecast glycemic events based on historical glucose data and physiological factors.
- Developed an Android application that integrates with a continuous glucose monitoring (CGM) sensor and Bluetooth Low Energy (BLE) technology, allowing real-time monitoring of glucose levels, recording of physiological data, and alerting users to potential future glycemic events based on predictive modeling.

Generic Data Migrator (GitHub) Mar 2022-Apr 2022

- Pluggable data migration tool using the Spark framework, enabling efficient data migration with filtration, processing, and transformation capabilities through a simple configuration.

Data Layer - DAAS Application (GitHub) Jul 2021-Aug 2021

- Developed a Data as a Service (DAAS) application that enables seamless access to multiple data sources through simple SQL queries via RESTful endpoints.

Veriq System Aug 2021- Feb 2022

- Full stack web application on embedded devices collaborated with MiCo BioMed that automate the medical testing procedure, manage the medical actions, and store, analyze and visualize the test results on the web.

API Management System Sep 2021-Dec 2021

- A cloud-based platform that enables organizations to securely, reliably, and at scale publish APIs to internal and external developers

SKILLS

- **Programming:** Java, Python, Go, Scala, SQL, Android, C++, C
- **Tools and Frameworks**: Spark, Hadoop Mapreduce, Dremio, Kafka, Elasticsearch, PyTorch, Tensorflow
- **Databases:** Postgres, MySQL, Cassandra, MongoDB, Redis, S3, Redshift, datalake
- **Containerization:** Docker, Kubernates

AWARDS AND EXTRA CURRICULAR

- Awarded **SUM 2024 Graduate Dean's 2024 Summer Research Assistantships** by University of Texas at Arlington, Texas, Arlington
- Awarded as **the best undergrad student** at Electronics and Computer Department, Tribhuvan University, Nepal(2017 & 2021)

GRADUATE COURSEWORK

Distributed System, Data Analysis And Modeling Techniques, Computer Architecture, Machine learning