NADUN DE SILVA

Associate Technical Lead and Aspirant Researcher

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EXPERIENCE

Associate Technical Lead

WSO2 — June 2021 – Present

- Leading several engineers and working on different aspects of Choreo — Intelligent iPaas

Senior Software Engineer

WSO2 — July 2019 – June 2021

- Led the Observability team of Choreo and owned Ballerina Observability area
- Revived the abandoned Ballerina Observability aspects and improved the instrumentation
- Designed Choreo Observability and Ballerina Observability architectures

Software Engineer

WSO2 — Jan 2018 – July 2019

- Designed and developed several components in middle-ware and cloud projects including Cellery, Siddhi and Identity Server

EDUCATION

Fundamentals of Reinforcement Learning

Amii, University of Alberta — September 2021

Score — 100 / 100

Deep Learning Specialization

DeepLearning.AI — June 2021

Score — 100 / 100

B.Sc. (Hons.) in Engineering (Computer Science and Engineering)

University of Moratuwa — 2014 – 2017

GPA — 3.85 / 4.20 (First Class)

G.C.E. Advanced Level Examination

St. Joseph's College, Colombo 10 — 2012

Attained A grades in all Subjects — (Combined Mathematics, Physics, Chemistry, General IT, General English, General Knowledge)

PUBLICATIONS

- T. Kumarage, S. Ranathunga, C. Kuruppu, N. De Silva and M. Ranawaka. (2019). Generative Adversarial Networks (GAN) based Anomaly Detection in Industrial Software Systems. In *2019 Moratuwa Engineering Research Conference (MERCon)* (pp. 43–48). doi:10.1109/MERCon.2019.8818750
- T. Kumarage, N. De Silva, M. Ranawaka, C. Kuruppu and S. Ranathunga. (2018). Anomaly Detection in Industrial Software Systems - Using Variational Autoencoders. In *Proceedings of the 7th International Conference on Pattern Recognition Applications and Methods - Volume 1: ICPRAM* (pp. 440–447). INSTICC. doi:10.5220/0006600304400447

ACHIEVEMENTS

- **WSO2 Sustained Outstanding Contribution Award**
  Exceptional (Top 5%) performance in consecutive years 2019 to 2021
- **Placements in Dean's List**
  6 out of 8 semesters at University of Moratuwa
- **Global Finalist — Galactic Impact — NASA Space Apps Challenge 2017**
  Became a Global Finalist for designing a system which was able to identify potential barriers and facilitators to gene migration using a Clustering Technique.
- **Google Summer of Code 2017**
- **Honorable Mention — WSO2 Internal Hackathon 2017**
- **Finalist — Angel Hack 2016**
- **Finalist — LANHack 2016**
- **Finalist — HackaDev 2015**
- **Finalist — British Council HSBC Youth Enterprise Awards 2015**

RESEARCH AND DEVELOPMENT PROJECTS

Fault Detection in Complex Systems (Academic Research)

University of Moratuwa

- Researched on identifying anomalies in Complex Industrial Systems, where labeling data is impractical, as a precursor to self healing systems.
- Explored unsupervised machine learning and deep learning techniques for detecting anomalies
- Developed a Variational Autoencoder based technique for detecting anomalies
- Developed a Bidirectional GAN based technique for detecting anomalies

Choreo — Intelligent iPaas

WSO2

Dec 2019 – Present

- Researched and implemented optimum ways on collecting, storing and analyzing large volumes of time-series data
- Analyzed user activity data patterns for improving user conversion
- Led Choreo Observability team and oversaw observability area
- Designed and oversaw multiple secure, scalable micro-services which formed the control plane of Choreo
- Contributed to designing many aspects of the control plane and SRE aspects of Choreo

Ballerina Observability

WSO2

Dec 2019 – Present

- Researched on the latest techniques on metrics and traces collection
- Revived the abandoned Ballerina Observability instrumentation
- Improved Ballerina Compiler Observability Instrumentation at Java byte-code level and Intermediate Representation
- Researched and improved the performance of Instrumentation to reduce the performance impact in enabling Observability

Cellery — Cell-based Architecture Implementation

WSO2

Aug 2018 – Dec 2019

- Researched and implemented the observability for micro-service composites in the PoC of Cellery
- Designed, implemented and oversaw observability aspects of Cellery
- Led implementation of tooling for Cellery
- Designed Cellery Hub; a registry for storing Cells, using the Docker Registry

Customer Success Enablement

WSO2

A data-driven approach for decision making to help customer support teams by analyzing customer engagement patterns and their satisfaction.

Stream Processing Extensions for Siddhi

WSO2

Designing and implementing several Siddhi stream processing extensions, to calculate the top and bottom values within a window, in a data stream.

TECHNICAL SKILLS

- **Languages** — Java, Python, JavaScript
- **Frameworks and Tools** — TensorFlow, PyTorch, Numpy, Pandas, Spring Boot, Git, JMeter
- **Knowledge Domains** — Deep Learning, Fault Detection, Time-series Analysis, Observability, Cloud Computing
- **Data Storages** — Time-series Databases (Influx DB, Azure Data Explorer, Azure Time Series Insights), Data Lakes (Azure Data Lake), Relational Databases (MySQL)

CERTIFICATIONS

Certified Kubernetes Administrator

The Linux Foundation Dec 2020

Score — 86 / 100

Certified Kubernetes Application Developer

The Linux Foundation Jan 2020

Score — 94 / 100

Certification in Computer Networking and Linux Server Administration

ACCIMT 2013

EXTRA CURRICULAR ACTIVITIES

- Played chess at Anatoly Karpov Chess Club in Colombo, Sri Lanka — Year 2003 – 2007
- Placed first in the Anatoly Karpov Inter Class Chess Tournament 2007
- Editor of the Science Union of St. Joseph's College — Year 2011 – 2012
- Sports — Athletics, Swimming, Karate
- Video Designing (Adobe Premiere, Adobe After Effects and Adobe Soundbooth) — Year 2015 – 2016
- Dancing — Events at Department of Computer Science and Engineering — University of Moratuwa

STRENGTHS

Hard Worker | Attention to Detail | Strong Team Player and Motivator | Problem Solver

SOFT SKILLS

Leadership Skills | Presentation Skills | Communication Skills | Time Management

LANGUAGES

Sinhala
English

REFEREES

Available Upon Request