

# NADUN DE SILVA

Associate Technical Lead and Aspirant Researcher

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 nadundesilva

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 Google Scholar Profile

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## EXPERIENCE

### Associate Technical Lead

**WSO2**

 June 2021 – Present

- Leading several engineers and working on different aspects of Chereo – Intelligent iPaaS

### Senior Software Engineer

**WSO2**

 July 2019 – June 2021

- Led the Observability team of Chereo and owned Ballerina Observability area
- Revived the abandoned Ballerina Observability aspects and improved the instrumentation
- Designed Chereo 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 performance in years 2019 and 2020
-  **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

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## 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
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## 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
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## 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
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## 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
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## Customer Success Enablement

**WSO2**

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

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## 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

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- **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

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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

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- 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

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

## SOFT SKILLS

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- Leadership Skills
- Presentation Skills
- Communication Skills
- Time Management

## LANGUAGES

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Sinhala  
English



## REFEREES

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Available Upon Request