

SHARUKA THIRIMANNE

M.Sc. in Computer Science Student | Researcher | Former Software Engineer

+1 (647) 633-2248 | sharukat@gmail.com | [linkedin.com/in/sharuka-thirimanne](https://www.linkedin.com/in/sharuka-thirimanne)
Toronto, Canada | [sharukat.github.io](https://github.com/sharukat) | github.com/sharukat

A graduate student who is currently pursuing an M.Sc. Computer Science at York University, Canada (*anticipated graduation date : 04/2024*) with research & development experience. +1-year industry experience as a software engineer. Proven history of successful work in software development, artificial intelligence (AI), and data science through academic(research)/industry projects, and publications. I am currently seeking for an internship opportunity as a Software Developer, Data Scientist or Machine Learning (ML) engineer.

TECHNICAL SKILLS

Machine Learning (ML) Frameworks/ Libraries	Scikit-Learn , Pandas, Matplotlib, NumPy, Weka
Deep Learning (DL) Frameworks/ Libraries	TensorFlow, PyTorch, Keras
AI Technologies Network Architectures	Computer Vision, NLP MLP, CNN, RNN, Transformers
Backend Frameworks/Tools Databases	Django, Django REST Framework, Postman PostgreSQL ,MySQL
Web Development Technologies IDEs	React PyCharm, Visual Studio Code, Jupyter, Eclipse
Image Processing Version Control	OpenCV Git, GitHub
OOP Programming Languages	Python , C/C++ (<i>Can adapt and work with any language</i>)
Machine Learning Techniques	Classification, Clustering, Regression, Anomaly Detection
Cloud Computing	Google Cloud Platform (GCP) , Amazon Web Services (AWS)
Data Mining	Data Acquisition, Transformation, Reduction, Integration

EDUCATION

April 2024 September 2022	M.Sc. in Computer Science (CS) , YORK UNIVERSITY, Canada <ul style="list-style-type: none">➤ Research : Expertise based TensorFlow software documentation simplification<ul style="list-style-type: none">➤ Machine Learning Theory➤ Data Mining➤ Mining Software Engineering Data➤ Neural Networks and Deep Learning (Computer Vision)
November 2021 October 2016	B.Sc. in Electronics & Telecommunications Engineering , SRI LANKA TECHNOLOGICAL CAMPUS, Sri Lanka <ul style="list-style-type: none">➤ Cumulative GPS : 3.33/4.0 (83.25%) Class : Second Class (Upper-Division)

EXPERIENCE

September 2022 Current	Teaching Assistant & Research Assistant , YORK UNIVERSITY, Canada <ul style="list-style-type: none">➤ Assisting the instructor and conducting software engineering labs.➤ Grading assignments, mid & end examinations, and invigilation.➤ Undertaking and assisting the supervisor with research.
August 2021 August 2022	Software Engineer, TRYONICS, Sri Lanka <ul style="list-style-type: none">➤ Successfully developed a near duplicate image identifier to detect text images with similarities with an accuracy greater than 90%.➤ Won merit award at NBQSA National awards competing with leading Sri Lankan tech companies.➤ Developed the backend and the APIs using Django and Django REST framework in Python.➤ Core developer of the first R&D project (Duplicate Image Identifier) of the company which is being currently used by major insurance companies in Sri Lanka. <div>Python Django Django REST Framework OpenCV PostgreSQL Redis Flutter</div>
September 2019 March 2020	Trainee Engineer, HUAWEI TECHNOLOGIES, Sri Lanka <ul style="list-style-type: none">➤ Team member of an island-wide fibre optics cable laying project (FTTx) in Sri Lanka.➤ Successfully Inspected more than 250 fibre cable and civil drawings for fault identification ensuring accurate outcome while communicating with regional managers to rectify the issues identified.

PUBLICATIONS

- 2023 "One Documentation Does Not Fit All", 39th IEEE International Conference on Software Maintenance and Evolution (ICSME) (Under review)
- 2022 "Deep Neural Network based Real-time Intrusion Detection System", Springer Computer Science Journal.
- 2021 "Deep Neural Network based Real-time Intrusion Detection System", 7th International Conference on Cyber Security and Privacy in Communication Networks (ICCS), United Kingdom
- 2021 "Comparative Algorithm Analysis for Machine Learning Based Intrusion Detection System", 10th International Conference on Information & Automation for Sustainability (ICIAfS), Sri Lanka

PROJECTS

SIMPLIFY TENSORFLOW SOFTWARE DOCUMENTATION BASED ON USER EXPERTISE

MAY 2023 - PRESENT

One documentation does not fit for all users. Therefore, researching on fine-tuning the BART and LLaMA pre-trained models for text simplification to enhance the comprehensibility of software documentation.

Python TensorFlow Large Language Models (BART | LLaMA) Transformers

EXPERTISE IMPACT ON STACK OVERFLOW (SO) QUESTIONS

OCTOBER 2022 - APRIL 2023

Mined Stack Overflow data and developed a model to evaluate user expertise in machine learning and software engineering domains by employing unsupervised learning. Analyzed whether the users have required skill level to comprehend TensorFlow tutorial documentation with different expertise levels

Python Stack Overflow TensorFlow

NEAR DUPLICATE IMAGE IDENTIFIER

AUGUST 2021 - JULY 2022

Developed an algorithm in Python to detect duplicate text images (invoices, medical claims) using image processing techniques and AKAZE descriptor detection method to identify fraud and altered images. Developed the backend and the APIs using Django and the Django REST framework accordingly.

Python Django Django REST Framework OpenCV PostgreSQL Brute-force Matching Redis Token Authentication

ML BASED INTRUSION DETECTION SYSTEM (IDS)

MAY 2020 - JUNE 2021

Identified the optimum ML algorithm for IDS out of 6 ML algorithms (DNN, SVM, K-NN, One-Class SVM, K-Means, and EM). Developed a real-time IDS using a trained Deep Neural Network with ML pipeline and a packet sniffer.

Python TensorFlow Keras Deep Neural Network (DNN) Support Vector Machines (SVM) K-Nearest Neighbors (KNN) K-Means

AUTOMATED CAR PARKING SOFTWARE USING JAVA AND MYSQL

JUNE 2018 - JULY 2018

Built a car park management system that visualises vacant/occupied slots, reserve, produce receipts, and notify upon exceeding time by developing a desktop application programmed in Java and MySQL for data management.

Java MySQL NetBeans

DUAL AXIS SOLAR TRACKING SYSTEM

FEBRUARY 2018 - MARCH 2018

Developed a solar tracking system to rotate horizontally and vertically to position the solar panel perpendicular to the sunlight using a PIC microcontroller coded in C together with LDRs and DC motors.

C Programming PIC Micro-controller

CERTIFICATIONS (COURSERA)

- | | | |
|--|----------------------------------|-------------------------------------|
| > GCP Fundamentals - Core Infrastructure | > Machine Learning | > AWS Cloud Practitioner Essentials |
| > Introduction to Data Science in Python | > Neural Networks and DL | > Improving Deep Neural Networks |
| > ML with TensorFlow on GCP Specialization | > Introduction to Git and GitHub | > Convolutional Neural Networks |

SOFT SKILLS

- | | | |
|--------------------------------|------------------------------|----------------------------------|
| > Analytical & Problem-solving | > Ambitious and Fast Learner | > Work Independently |
| > Teamwork | > Disciplined Self-starter | > Passionate for Experimentation |

AWARDS AND ACHIEVEMENTS

- | | |
|----------------|---|
| September 2022 | Fellowship Scholarship - Fully funded scholarship to pursue masters at York University |
| May 2012 | Gold Medal - All island Wushu tournament organized by Sri Lanka Wushu Federation |
| March 2011 | Silver Medal - All Island School Wushu Championship. |