

SHARUKA THIRIMANNE

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EXPERIENCE

Teaching and Research Assistant, York University, Canada

SEP. 2022 - APR. 2024

- Facilitate software engineering labs for undergraduates to reinforce lecture concepts
- Responsible for grading assignments & examinations, and invigilation.
- Collaborated with researchers to design experiments and implement research methodologies at **EXINES** lab.
- Produced research documentation and presentations, effectively communicating findings to diverse audiences.

Software Engineer, Tryonics, Sri Lanka

AUG. 2021 - AUG. 2022

- Developed **Tryo Duplicate Document Identifier**, a solution for identification of near-duplicate insurance claim images.
- Won **merit award** at the NBQSA National Awards, competing with leading tech companies and universities in Sri Lanka.
- Conducted product demonstrations for enterprises to introduce the Tryo Duplicate Document Identifier solution.
- Developed the back-end of the system using **Django, Django REST framework** and **PostgreSQL**.
- Developed front-end for mobile applications using the **Flutter** framework.

EDUCATION

M.Sc. in Computer Science, York University, Canada

SEP. 2022 - APR. 2024

- GPA : 7.8/9.0** | Awarded **\$62,500 scholarship** which covers full tuition with monthly stipend.

B.Sc. (Hons) in Electronics & Telecommunications, SLTC Research University, Sri Lanka

OCT. 2016 - NOV. 2021

- GPA : 3.33/4.0** | **Class : Second Class (Upper-Division) - Honours**

SKILLS

- Programming Languages:** Python, C++, Java, Dart (Object Oriented Programming, Data Structures and Algorithms)
- SQL, PostgreSQL, MySQL, Flutter, React.js, Git, GitHub, Django, Django REST Application Programming Interface (API)
- Scikit-Learn, Pandas, Matplotlib, Numpy, TensorFlow, PyTorch, Keras
- Google Cloud Platform (GCP), Amazon Web Services (AWS), Unix/Linux

PUBLICATIONS

One Documentation Does Not Fit All

- International Conference on Program Comprehension (ICPC), 2024 - Under Review.

Deep Neural Network based Real-time Intrusion Detection System

- Springer Nature SN Computer Science Journal, 2022 | DOI: [10.1007/s42979-022-01031-1](https://doi.org/10.1007/s42979-022-01031-1)
- 7th International Conference on Cyber Security and Privacy in Communication Networks (ICCS), 2021

Comparative Algorithm Analysis for ML Based Intrusion Detection System

- 10th International Conference on Information & Automation for Sustainability, 2021 | DOI: [10.1109/ICIAfS52090.2021.9605814](https://doi.org/10.1109/ICIAfS52090.2021.9605814)

PROJECTS

Automatic TensorFlow API Documentation Customization

Tools & Technologies: Python, Pandas, TensorFlow, PyTorch, NumPy

- Analyze TensorFlow API documentation and customize documentation based on user expertise enhancing usability and comprehensibility using Natural Language Processing (NLP).

Expertise Impact on Stack Overflow (SO) Questions

Tools & Technologies: K-Means, Seaborn, Matplotlib, Statistical Analysis

- Built a model that assess user expertise in machine learning and software engineering employing unsupervised learning.

Near Duplicate Image Identifier

Tools & Technologies: Django, Django REST Framework, PostgreSQL, Redis, NumPy, OpenCV

- Developed the core module and back-end with APIs to detect duplicate images (medical claims) for fraud detection.

Yard Management System

Tools & Technologies: React, Django, Django REST Framework, PostgreSQL, Postman

- Full Stack Yard Management System for management of inbound and outbound containers, including invoice generation.

ML based Intrusion Detection System (IDS)

Tools & Technologies: Keras, TensorFlow, Pickle, DNN, Support Vector Machine, KNN

- Developed a real-time IDS by training a Deep Neural Network (DNN) and using packet sniffing technique.

Automated Car Parking System

Tools & Technologies: Java, MySQL, NetBeans

- Car park management system to visualize vacant spaces, reserve, receipt generation, and notify users.

HONORS & AWARDS

2022 **Overall Excellence**, Eng. Ranjith Rubasinghe University Award for Overall Excellence (The most prestigious award)

2022 **Best Research**, University Award for Best Research

2022 **Gold Medal**, Best Contribution for Research & Innovation

2022 **Bronze Medal**, Outstanding Contribution to the University Life