Lasitha Jayawardana

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https://github.com/Lasitha-Jayawardana

B.Sc. (Hons) in Electronics and Telecommunication Engineering

I'm a self-learning graduate of Electronics and Telecommunication Engineering who is willing to work in challenging environments, seeking an opportunity to build carrier skills in Software, Machine Learning & Telecommunication. An individual who is open to growth and continuous learning. I could be able to adapt to any situation and act as a problem solver through analytical thinking.

TECHNICAL SKILLS

- Languages : C / C++ / VB / Python/Java / Verilog.
- Database Handling : MySQL, SQL.
- Web Development : PHP / Java Script / Flask / Nodejs / HTML CSS/ AJAX / jQuery / Bootstrap / REST API.
- Distributed version control : git / GitHub
- Familiar Platforms : Linux, Microsoft Windows
- Familiar Software Packages : Google Colaboratory |Wireshark |MATLAB | VS Code| Netbeans | Android Studio EAGLE | INVENTER|FUSION 360| Vivado |Visual Studio| Cisco Packet Tracer

- (TCP/IP, UDP) Socket programming in C, Nodejs, Flask and Python
- Machine Learning & Data Mining
- Networking & Network Programming
- Sound knowledge of Ethical Hacking & Cybersecurity
- FPGA Development
- Design & implementing Electronic Circuits

WORK EXPERIENCE

Trainee Engineer
Paraqum Technologies. (Sep 2019 – Apr 2020)

I mainly worked on a project called SSL interception which belongs to SSL Tunnel data fetch using middleware connection. It decrypts up to the application layer for HTTPS traffic as an inline system to the local network. Experience in network programming with knowledge of C language and also better understanding of encrypted data network, Proxy, SSL certification, Socket programming, Linux routing chain, Linux network configurations, NAT, and many network protocols.

- Developed HTTPS Burp Proxy method for SSL interception.
- Developed a complete system to transparent data payload for the encrypted network traffic (HTTPS), to keep Traffic-Shaper product to be in the non-encrypted zone without the use of a proxy.

Experience in FPGA design using Verilog and DPI-C.

- Designed RGB to YCbCr Converter using FPGA.
- Designed Matrix Multiplication with hardware accelerator using FPGA.

EDUCATION

Sri Lanka Technological Campus
BSc. (Hons) in Electronics & Telecommunication Engineering 2016 – 2021

Kingswood College Kandy.
G.C.E A/L 2014 & G.C.E O/L 2011

SKILLS & ABILITIES

- Proficient in planning and implementation.
- Able to work unsupervised and learns fast with creativity.
- Collaboration and Teamwork.
- Adaptability and self-motivation.

EXTRA-CURRICULAR ACTIVITIES

- **Leader of Technical Team** 2019
  Project of SLTC TECHNOBOT .
- **Committee member** 2012 – 2014
  Science Society of Kingswood College.

RESEARCH

Comparative Algorithm Analysis for Machine Learning Based Intrusion Detection System

The blind review process for paper submitted to the 10th International Conference on Information and Automation for Sustainability (IEEE ICIAfS 2021) has been accepted for presentation.

The research compares the performance metrics of six different machine learning algorithms namely (DNN), (SVM), (KNN), One- class SVM, K-Means and (EM). Each of those algorithms are compared using NSL-KDD and UNSW-NB15 datasets. Confusion matrix, precision, recall, F1-score, and ROC are used as the evaluation metrices to compare each machine learning algorithm.

PROJECT HIGHLIGHTS

- **Machine Learning Based Intrusion Detection System (Final Year Project)**
  https://github.com/Lasitha-Jayawardana/IDS
  Some important features derived using the packet sniffing technique from real-time packets from the network which are in NSL-KDD dataset. Then derived features will send to the ML model which is trained from the dataset. And also built a RESTful web API to provide prediction capability in an AWS instance.
  (Python, Flask, HTML, CSS, JavaScript, C++, ML, Socket programming, RESTful, Cloud)

- **Real-time GPS Tracker using microcontroller include with Web Application and Android app**
  https://github.com/Lasitha-Jayawardana/Track-Me
  This device provides location capability through the internet. The device can be tracked in real-time using Google Maps JavaScript API & Direction API by the web application or mobile app which were developed by me. It is already implemented on the SLTC Shuttle service.
  (C, API, PHP, HTML, CSS, JavaScript, Bootstrap, AJAX, Eagle CAD PCB Design)
  (https://parking-project.000webhostapp.com)

- **Music Manager** https://github.com/Lasitha-Jayawardana/Media-Manager
  This Java application provide interface to manage your Video and Audio files very easily. It is easy tool to select and delete unwanted audio and video.
  (Java)

- **Online Expenses Handler for Group**
  https://github.com/Lasitha-Jayawardana/A-Banking
  This web-based application is able to handle daily expenses for a group very easily through mobile devices.
  (PHP, HTML, CSS, JavaScript, Bootstrap)

- **Ozone Antivirus**
  https://github.com/Lasitha-Jayawardana/Ozone-Antivirus
  This is a VB application that provides safety against Virus attacks with Real-time protection. Such as Running progress Shield, File system Shield - Keep in touch with all path which was infected before, File script Shield - Scan files when they change their current path, and Removable Shield.
  (Visual Basic)

- **Web Based Online Parking Reservation System.**
  https://github.com/Lasitha-Jayawardana/Online-Parking-Reservation-System
  This system indicates the vacant and occupied slots individually. Customer can reserve a vacant parking slot before entering the car park. It has 3 characters' admin, supervisor and customer. Administrator can make alterations to the map of the car park, billing settings, manage supervisor's, max reservation time and many other settings.
  (https://lasithaj.000webhostapp.com)

- **Timer for Tube Well with Automatic Water Filling System**
  https://github.com/Lasitha-Jayawardana/Timer-for-Tube-Well
  This system can detect the water level. It will pump water for a specific time period and pump will be turned off for another time period. It will repeat until the tank is fully filled. If the water level decreases to certain level, the process will start again.

- **Fighting Robot for SLTC BattleBots 2017**
  It was designed to fight with another robot on an arena using a weapon. It contains a metal roller as the weapon and a brushless motor is used to rotate the metal roller.

Please refer GitHub for more projects

DIGITAL COURSES

Machine Learning

- Baseline: Data, ML, AI (Qwiklabs)
- Machine Learning (Coursera) (3 month)
- Google Cloud Solutions II: Data and Machine Learning (Qwiklabs)
- Machine Learning: Clustering & Retrieval (Coursera)
- Machine Learning Foundations: A Case Study Approach (Coursera)
- Structuring Machine Learning Projects (Coursera)
- Neural Networks and Deep Learning (Coursera)
- Introduction to TensorFlow for Artificial Intelligence, Machine Learning, and Deep Learning (Coursera)

Cloud Engineering

- Amazon Web Services Solutions Architect Associate (Qwiklabs)
- Cloud Engineering (Qwiklabs)
- Google Cloud Essentials (Qwiklabs)
- AWS Cloud Practitioner Essentials (Second Edition) (AWS) (Qwiklabs)
- Microsoft Azure Architecture - Getting Started (Pluralsight)
- Google Cloud Platform Fundamentals (Pluralsight)
- Google Cloud Platform Fundamentals - Core Infrastructure (Pluralsight)

Other

- Introduction to Cybersecurity (Cisco)
- Introduction to Cyber Attacks (Coursera)
- Object Oriented Programming in Java (Coursera)
- Introduction to Java Programming: Java Fundamental Concepts (Coursera)

REFEREES

- **Dr. Udesh S. Oruthota**
  Director - Academic Resources,
  Sri Lanka Technological Campus | SLTC | sltc.lk
  Mobile: +94 713 351 730
  Email: udesho@sltc.edu.lk

- **Dr. Lasith Yasakethu**
  Senior Lecturer/Chairperson of the Quality Assurance School of Engineering
  Sri Lanka Technological Campus | SLTC |
  Email: lasithy@sltc.ac.lk