



# Isuru Sachitha Herath

Computer Engineering Undergraduate



I'm an enthusiastic Computer Engineering Student who is motivated to learn new technologies and engineer novel innovations for the betterment of the society. Also, I'm a team player, strategic decision maker and Researcher specialist in problem Analysis and giving effective and creative solutions with minimum resources.

## EXPERIENCE

**Trainee Engineer -  
Research & Development**  
Feb 2020 - Aug 2020

CODEGEN INTERNATIONAL (PVT) LTD.

Working on Product based Research and Development project which employ Machine Learning, Natural Language Processing and latest web-based technologies

**Junior Research  
Assistant**

Nov 2015 - Nov 2016

NATIONAL INSTITUTE OF FUNDAMENTAL  
STUDIES. HANTHANA, SRI LANKA

Worked on Software Developments and IoT & Embedded Systems in Computer Science and Applied Electronics Lab of NIFS under supervision of Emeritus Prof. Asiri Nanayakkara.

**Public Relations Executive**

April 2018 - June 2019

SUSTAINABLE EDUCATION FOUNDATION.

Worked as Liaison with Resource persons from STEM field to conduct workshops, Online Sessions on STEM Subjects

**Co-Founder**

Feb 2017 - Present

ELEMENTRY INNOVATION LABS.

Elementry Innovations Labs is a startup based focused on R&D of smart technologies. The startup is formed from the hackathon team.

## EDUCATION

- **University of Sri Jayewardenepura, Faculty of Engineering**  
**BSc Eng (Hons) in Computer Engineering, Data Management** (minor)  
Nov 2016 - June 2021 \*undergraduate
- **Java Institute for Advanced Technology, Sri Lanka**  
**Certified Java Standalone Application Developer**  
Dec 2011 - Nov 2012
- **Poramadulla National School, Rikillagaskada**  
**G.C.E A/L - 2015**  
Physics A | Chemistry B | Combined Maths C  
District Rank - 18

**G.C.E O/L - 2011**  
9 Distinctions (A)

## TECHNICAL KNOWLEDGE AND SKILLS

### Languages & Frameworks

C/C++ | Java | Python | Django | FastAPI | Flask | JavaScript |  
OpenCV | Spring Boot | Tensorflow | Keras | SQL | Arduino C

### Tools and Technologies

NetBeans | Arduino | NodeMCU | Blynk Cloud | PyCharm | PHPStorm |  
MySQL | Jupyter Notebook | Microsoft Azure Machine Learning Studio |  
Google Cloud Platform | Dash | Visual Studio | Android Studio | Linux |  
Ubuntu | UML

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## PERSONAL PROFILE

Birthday : 18<sup>TH</sup> Feb 1995  
Relationship : Unmarried  
Nationality : Sri Lankan  
Languages : English, Sinhala

## CONCEPTS

Internet of Things  
Machine Learning  
Deep Learning  
Embedded Systems  
Object Oriented Programming  
Data Structures and  
Algorithms Data Mining  
Software Quality Assurance  
Networking & Security

## REFEREES

**DR. Randima Dinalankara**

Head of the Department  
Department of Computer Engineering  
Faculty of Engineering  
University of Sri Jayewardenepura  
Email : randima@sjp.ac.lk  
Phone : +94779850917

**DR. Udaya Wijenayake**

Senior Lecturer  
Department of Computer Engineering  
Faculty of Engineering  
University of Sri Jayewardenepura  
Email : udayaw@sjp.ac.lk  
Phone : +94764655928

## PROFESSIONAL AFFILIATIONS

**Student Member**( since 2017)  
**Institute of Electrical and  
Electronic Engineers ( IEEE )**

**Student Member**( since 2017)  
**Institute of Engineers Sri Lanka  
( IESL )**

**Member**( since 2016)  
**Internet Society of Sri Lanka  
( ISOC-SL )**

## MOOCS

**Deep Learning Specialization**  
*deeplearning.ai - Coursera*

**DeepLearning.AI TensorFlow  
Developer Professional Certificate**  
( 2/4 completed- Ongoing)

## WORKSHOPS / BOOTCAMPS

ScholarX 2020  
Sustainable Education Foundation

ML Bootcamp 2019 by GDG Sri Lanka &  
SLASSCOM

Joint Indo-Sri Lanka workshop on Big Data  
analytics at 2017 IEEE International  
Conference on Information Systems

## RESEARCH PUBLICATIONS

I. S. Herath, "Smart Water Buddy: IoT based Intelligent Domestic Water Management System," 2019 IEEE International Conference on Advancements in Computing (ICAC), 2019, pp. 380-385, [doi:10.1109/ICAC49085.2019.9103379](https://doi.org/10.1109/ICAC49085.2019.9103379).

## PROJECTS

### Smart Stethoscope: Intelligent respiratory disease prediction system

[ Final Year Research ] ( June 2021 )

Implemented respiratory disease prediction framework with medical training and expert knowledge extraction features

Used Technologies : C-RNN | Digital Signal Processing | Python | Keras | TensorFlow | FastAPI | Django

### Investigator : Artificial Intelligence based Crime Analysis and Prediction platform

( April 2021 )

Crime analysis , prediction and simulation platform employing Machine Learning/Deep Learning , Big Data & Data analytics and agent based modelling using Q-Learning.

Used Technologies : Python | Keras | TensorFlow | Scikit-learn | Kafka | FastAPI | Django | Leaflet JS

### Automatic Sudoku Solver ( April 2021 )

Fast Real-time Sudoku puzzle solver employing Computer Vision technologies , Deep Learning and Algorithm X Used Technologies : C++ | OpenCV | Python | Keras | TensorFlow | FastAPI

### Helitours Tool Management System (Nov 2020 )

Tool Management System for Helitours commercial flight wing of Sri Lankan Air Force.

Technologies Used: Python | Django | MySQL | Javascript | HTML5 | CSS | Bootstrap | Heroku Cloud

### Smart Water Buddy - IoT based Intelligent Domestic Water Management System

(Aug 2019)

Implemented a Water management system employing Unsupervised Machine Learning and IoT enabled to detect water usage anomalies.

Used Technologies : NodeMCU | Python | Scikit-learn | Flask | Dash | CSS | HTML5 | PHP | Json | MySQL | Apache Server | XAMP server | Twilio

### EagleEye Military Training Simulator (April 2019)

Implemented a Training Simulator with Machine Learning to classify training soldiers by using EEG data and firing accuracy and speed.

Used Technologies : Arduino Mega | Python | Scikit-learn | Flask | Dash | CSS | HTML5 | VueJS | Json , MySQL | Apache Server | XAMP server

### New York City Taxi Fare Prediction Web Application (June 2019)

Web Application for New York Taxi Fare Prediction by employing Data Mining and Machine Learning Used

Technologies : Python | Scikit-learn | Pandas | Dash | Flask | CSS | HTML5 | ReactJS

### TV Series Extension Recommendation System (Dec 2019)

Implemented a system to recommend the next extension of TV series by analyzing Twitter data and IMDB data with Natural Language Processing and Data Mining techniques

Used Technologies : Python | spaCy | NLTK | Scikit-learn | Selenium

### Traffic Fine Management System (May 2019)

Web Based System automated the issuing of Traffic Fine Tickets with Traffic violation data Analysis functions. Used Technologies : PHP | Laravel | MySQL | HTML5 | CSS | Bootstrap

### Low Cost Weather Station (Oct 2018)

Designed and developed highly calibrated low cost sensors and build Arduino based IoT Weather station .

Used Technologies : Arduino Mega | C/C++ | Blynk Cloud | SIM900 GSM GPRS Shield

### Smart Home Water Management System (Sep 2017)

Embedded Systems with IoT to automated water taps and Water Pumps .

Used Technologies : NodeMCU | C/C++ | Blynk Cloud | 555-IC

### Students Information Management System of Poramadulla National School (2012-2016)

Developed Management Information System of Poranadulla National School.

Used Technologies : Java SE | MySQL | Jasper

### Transport Management System of National Institute of Fundamental Studies (2016)

Developed Management Information System of Transport unit of NIFS

Used Technologies : Java SE | MySQL | Jasper

### Scientific Graph Reader (March 2016)

Desktop app to read data point values of Scientific graphs

Used Technologies : C# | Visual Studio 2012

### TXTEncryptorDecryptor (2014)

Desktop app for text encryption and decryption

Used Technologies : Java SE | Java Cryptography API

### **IEEEExtreme Student Ambassador** ( Jan 2018 - Nov 2018)

IEEE STUDENT BRANCH OF UNIVERSITY OF SRI JAYEWARDENEPURA

served as the Chair of inaugural IEEEExtreme competitive programming competition organizing committee which was organized collaboration with the IEEE Open University of Sri Lanka Student Branch (IEEE OUSL SB) and worked as the liaison between IEEE Student Branches and IEEEExtreme

### **Co-Founder / Senior Member** ( 2017 - Present)

IEEE STUDENT BRANCH OF UNIVERSITY OF SRI JAYEWARDENEPURA

Established the IEEE Student branch at Faculty of Engineering, University of Sri Jayewardenpura and took necessary steps to lay a solid foundation for sustainable growth of the student branch

### **Editor** ( Feb 2017 - April 2018)

IESL STUDENT CHAPTER OF UNIVERSITY OF SRI JAYEWARDENEPURA

served as organizing committee member in IESL DAY 2017 and served as Design team member in IESL TECHNO 2017 Exhibition .

### **Co-Chair**( Dec 2018 - March 2019)

GOOGLE HASH CODE 2019 | FACULTY OF ENGINEERING USJP

served as the Chair of inaugural Google HashCode competitive programming competition organizing committee at Faculty of Engineering, USJP

### **Vice President-Education (1<sup>ST</sup> Level Committee)** ( 2017 - 2018)

GAVEL CLUB OF UNIVERSITY OF SRI JAYEWARDENEPURA

Done awareness programs , Inductions about Gavel Club in university to improve the public speaking ability among university undergraduates

### **Team Member** ( 2017 - 2018)

AIESEC JLC - UNIVERSITY OF SRI JAYEWARDENEPURA

Worked as liaison for Foreign volunteers and AIESEC JLC and done Documentations, Online Marketing about Volunteering with AIESEC JLC

### **Volunteer Mathematics Teacher** ( 2017 - Present)

SIPSAYURA O/L SEMINAR BY ENGINEERING STUDENTS USJP

### **Founder/ President** (2011 - 2014)

ICT SOCIETY OF PORAMADULLA NATIONAL SCHOOL

Established the Society and created a talent pool of students to groom future leaders of ICT society by improving ICT skills and awareness among the School community.

### **Air Cadet(SNCO)** ( 2012 - 2014)

Air Wing - NATIONAL CADET CROPS

Founding member of the Air cadets Platoon of Poramadulla Nation School and held the rank of Senior Non-Commission officer and worked as Chief Instructor for Military Studies and Student Coordinator.

### **Senior Sergeant** ( 2008 - 2014)

ST JOHN AMBULANCE PORAMADULLA NATIONAL SCHOOL

Joined as a junior cadet and become Senior Sergeant which is the highest ranking position . Organized and Coordinated Charities , Blood Donations and First Aid Services

### **Senior Prefect** ( 2011 - 2014)

PORAMADULLA NATIONAL SCHOOL

served as the ICT Coordinator of Senior Prefect Board

## AWARDS & ACHIEVEMENTS

### 1<sup>st</sup> Runner Up (Oct 2019)

Techno - SL IoT challenge | The Institute of Engineers, Sri Lanka ( IESL )

### Silver Award ( Aug 2019 )

BEST EMPLOYABILITY SKILLS ACHIEVER ( Faculty of Engineering )  
J'pura Employability Skills Awards - 2019 | University of Sri Jayewardenepura

### Special Merit Award ( June 2019 )

IICE COMPETITION  
The Innovation, Invention and Venture Creation Council (IIVCC)  
University of Sri Jayewardenepura

### Google HashCode Programming Competition ( March 2019 )

Team\_WildHunters | Country Rank : 7 | University Rank: 1

### 14<sup>th</sup> Place - ACES Coders v6.0 ( Nov 2018 )

INTER UNIVERSITY COMPETITIVE PROGRAMMING COMPETITION  
Faculty of Engineering, University of Peradeniya

### IEEEExtreme Oct 2018 )

Team\_WildHunters  
2018 v12.0 World Rank: 1205 | Country Rank: 105 | University Rank: 4  
2019 v13.0 World Rank: 916 | Country Rank: 58 | University Rank: 4

### Gold Medal ( April 2018 )

OPEN SCIENCE CIRCLE QUIZ COMPETITION  
National Institute of Fundamental Studies

### 1<sup>st</sup> Place ( Oct 2017 )

INTER-FACULTY C++ GAMING HACKERTHON  
Faculty of Engineering, University of Sri Jayewardenepura

### 2<sup>nd</sup> Place ( Jun 2016 )

KNADY IT/BPM WEEK ICT INNOVATION COMPETITION  
SLASSCOM and ICTA-Sri Lanka

### 1<sup>st</sup> Place (Central Province) ( Oct 2015 )

YOUNG COMPUTER SCIENTIST COMPETITION(YCS) 2015  
Sri Lanka Association for the Software Industry (SLASI)

### 1<sup>st</sup> Place (Central Province) ( Oct 2014 )

YOUNG COMPUTER SCIENTIST COMPETITION(YCS) 2014  
Sri Lanka Association for the Software Industry (SLASI)

### Merit Award ( Dec 2013 )

YOUNG COMPUTER SCIENTIST COMPETITION(YCS) 2013  
Sri Lanka Association for the Software Industry (SLASI)

### Merit Award ( Oct 2011 )

NATIONAL SCHOOL SOFTWARE COMPETITION 2011  
Ministry of Education - Sri Lanka

### Top Five ( June 2011 )

DFCC MINDSTAR QUIZ REALITY TV PROGRAMME  
DFCC Bank

## DECLARATION

I hereby declare that the all above written information is true and correct to the best of my knowledge and belief.

07 / 06 / 2021

Date



Signature



[github.com/isurusachitha](https://github.com/isurusachitha)



[facebook.com/isurusachitha](https://facebook.com/isurusachitha)



[twitter.com/IsuruSachitha](https://twitter.com/IsuruSachitha)



[linkedin.com/in/isurusachitha](https://linkedin.com/in/isurusachitha)