Damsy De Silva

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GitHub | LinkedIn | Portfolio

WORKING EXPERIENCE

Research Internship | Augmented Human Lab | Auckland Bioengineering Institute | University of Auckland, New Zealand ***Jan 2022 – June 2022***

- Contribution on research and development of a mobile application to support science learning for school students. (Unity, Nodejs)
- Contribution on pipeline development for investigating motion sickness on VR gameplay with Self-Supervised Learning. (Python)
- Conduct a literature review on creating engaging mobile-based learning experiences.

EDUCATION

BSc Engineering (Hons) | Faculty of Engineering | University of Peradeniya, Sri Lanka ***Nov 2017 - Present***

Current GPA : 3.55 / 4.00
Specialization : Computer Engineering

Prajapathi Gothami Girls' College | Ambalangoda, Sri Lanka ***2003 – 2016***

GCE Advanced Level Examination (2016) : Combined Mathematics: (A), Chemistry: (A), Physics: (B)
National Rank : 1122 Z-Score : 1.8444

PROJECTS (View on GitHub)

Human & Animal Emotion Detection Using ECG and ML Techniques | Final Year Project **2022 - Ongoing**

Implementation of machine learning model for detecting selected set of human emotions by building a comprehensive electrocardiogram (ECG) dataset and exploring the possibility of predicting animal emotions using similar techniques in human domain.

Technologies : Python, TensorFlow, NumPy, Matplotlib, Nodejs, Reactjs
Techniques : Electrocardiogram (ECG), Signal Processing, Convolutional Neural Networks (CNN)
Contribution : Data acquisition application development, Data pre-processing, Model Development

Project chessMATE | Smart Chess Platform | Group Project **2020 – *2021***

An IoT chess Platform that allows worldwide distant chess players to connect and play on a physical chess board powered electronically and controlled through a mobile app. The system allows viewing and streaming of live games, and chess tutorials in addition to playing.

Technologies : Flutter-Dart, MySQL, NodeJS, AWS, C++, Autodesk Fusion360, ESP32
Techniques : Multiplexing algorithms, Bluetooth-serial, Web-socket programming, Embedded systems
Contribution : Mobile app development, Backend development, Hardware programming, AWS Cloud deployment

Movie Review System | Group project ***2021***

A full-stack web application to view & rate and post reviews on the movies online. Users can analyze reviews, ratings and choose movies.

Technologies : Node.js, React.js, MongoDB
Contribution : Backend development, Database development

National COVID Management System | Individual project ***2021***

A full-stack web application to efficiently manage patients having COVID-19 symptoms with bed reservation and queue controlling mechanisms. The system also provides country, district, and hospital level patient statistics.

Technologies : Java, React.js, MySQL, Maven

RISC-V 32-bit (RV32IM) Pipelined Processor Implementation | Group Project ***2021***

Implementing a pipelined processor and assembler based on the RISC-V instruction set Architecture. Processor includes ALU, register file, control logic, forwarding unit, data memory, data cache, instruction memory and instruction cache.

Technologies : Verilog HDL , C
Techniques : RISC-V ISA, Computer Architecture

Crossword Puzzle Game | Group Project ***2021***

A Facebook instant game for school children so that they can select and solve educational crossword puzzles.

Technologies : React.js
Contribution : User Interface Developing, User-Experience Enhancing, Crossword Content Designing

Auction Server | Group Project ***2019***

A Server which can be used by clients to bid for items in a sample stock exchange.

Technologies : Java
Techniques : Multi-threading, Synchronization Primitives, Socket Programming, OOP
Contribution : Backend Implementation, Interface Designing

Project You See World | Smart Guidance System for Visually Impaired Persons | Group Project ***2018 - 2019***

Developed an electronically powered blind stick that detects near obstacles and vibration belt to notify the blind person. And a mobile app for assistance with voice controlling.

Technologies : Arduino Microcontroller, Raspberry Pi, Ultrasonic Sensors

PROGRAMMING SKILLS HIGHLIGHTS

Programming Languages	Java, C, C++, Python	Procedural Programming	ARM Assembly
Web Development	HTML, CSS, JavaScript, Node.js, React.js	Hardware Programming	AVR programming, Verilog
Database Systems	MySQL, MongoDB	Version Controlling	Git

COMPETITIONS & AWARDS

Arimac Future Cast Ideathon 2021 | IoT Category ***2021***

Finalist from 50+ teams and 150+ participants for project chessMATE (Smart Chess Platform)

HackStat 2.0 2019 | Organized by Stat Circle, University of Colombo ***2019***

2nd runner-up from 50+ teams in creating a prediction model for an insurance-based dataset.

DATATHON | SLIIT CODEFEST | Merit Award at Finals ***2019***

Merit Award at finals from 100+ teams in creating a prediction model on a dataset which is based on online shoppers' purchasing.

IEEE SS12 ASIA 2018 | Innovative Pilot Competition, University of Peradeniya | Runners-up ***2018***

Runners-up for project "You See world", a smart guidance system for visually impaired persons.

IEEE Region 10 Humanitarian Technology Conference 2018 Community Outreach Project ***2018***

Runners-up at the "Humanitarian Product Competition" for the project "You See world".

Most Outstanding Student Award | Post A/L School Prize Giving ***2017***

TEACHING EXPERIENCE

Teaching Assistant |Department of Computer Engineering | University of Peradeniya ***2021 – Present***

CO321 : Embedded Systems
CO324 : Network and Web Application
CO227 : Computer Engineering Project

VOLUNTEERING EXPERIENCE

Volunteer Teacher | Project Nenathambara with ACES ***2022***

Conducting Arduino and Python lesson series for grade 8 – 11 school students.

EXTRACURRICULAR ACTIVITIES

Association of Computer Engineering Students (ACES) | University of Peradeniya | Committee Member ***2022***

Deputy Head Prefect | Prajapathi Gothami Girls' College ***2016***

School Chess Team | Captain: U-16, U-14 | Team Member ***2005 – 2015***

Have won national Level chess championships since 2005

School Badminton Team | Team Member ***2004 - 2014***

Have won badminton championships since 2004

School Math Quiz Team | Team Member ***2008 - 2015***

Have won Inter-school math competitions since 2009

REFERENCES

Prof. Roshan Ragel
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