

THARMAPALAN THANUJAN

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Education

University Of Peradeniya

Nov. 2018 – Present

BSc in Computer Engineering

GPA: 3.3/4.0

Jaffna Hindu College

Jul. 2013 – 2017

G.C.E. Advanced Level Examination

Mathematics (A), Physics (B), Chemistry (B)

Relevant Coursework

- Machine Learning
- Deep Learning
- Embedded systems
- Systems Programming
- Explainable AI
- Artificial Intelligence
- Software methodology
- Computer Architecture

Projects

Leaf disease classification | Django, TensorFlow, Machine Learning Explainable AI 2020 - Present

- Created a web application to classify tomato plant's disease based on plant's leaves.
- Trained a image classification AI model, Mobilenet, using transfer learning.
- Found that the model will perform more effectively, when noised images are used to train a model.
- Explainable AI models such as vanilla saliency map, GradCam, GradCam++, SHAP and Lime is used to explain the model.
- Created a Django application using python and Tensor flow to display the prediction and explanation of predicted disease.

Host Pathogen Interaction | Django, Machine Learning, DevOps 2021 - Present

- Created a web application using Django and Tensor flow to predict and show the classification of disease based on a DNA sample.
- Found an machine learning model to classify the disease based on relative abundances of microbial species.
- pre-processed collection of relative abundances data , trained the model and integrate the model into the web application.

Smart Inventory Management System | Laravel, MySql 2021 - Present

- Created a web-application using Laravel and Mysql to manage inventory items in computer engineering department.
- Made the database for the Inventory Management System.
- Developed the back-end for the web application.

Maker mate | Laravel, MySql, Raspberry pi 2021 - Present

- Created a web-application and a smart locker using Laravel, Mysql and Raspberry pi to make the computer engineering department's lending system online.
- Made an API for the inventory management system.

8-bit single cycle processor | Verilog-HDL 2020

- An 8-bit single cycle CPU with associated memory hierarchy.
- The processor includes an ALU, register file, control logic, forwarding unit, data memory, data cache, instruction memory and instruction cache.

Bicycle sharing system | React, Embedded system, Flutter 2018 - Present

- Created an web application using Java-script and NextJs for Bicycle sharing system.

Technical Skills

Languages: Python, Java, C, C++, Verilog-HDL, HTML/CSS, JavaScript, SQL

Developer Tools: VS Code, Eclipse, Google Cloud Platform, Android Studio

Technologies/Frameworks: Linux, NodeJS, ReactJS, Flutter, AngularJS, VueJs, NextJS, NuxtJs

Leadership / Extracurricular

University students' union of kanagarayankulam (Society)

2020 – Present

President

- Arranged seminars for G.C.E O/L and G.C.E A/L students..
- Gathered funds and provided basic relief goods more than 300 people in several villages.

Boxing

2017 – Present

member

- member of boxing team of the University Of Peradeniya
- member of boxing team of the Vavuniya boxing club