

Kirthika Senathiraja

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Education	Information Institute of Technology , Colombo, Sri Lanka Affiliated with Robert Gordon University, Scotland BSc (Hons) Artificial Intelligence and Data Science High Distinction	September 2020-Present Graduation: June 2024
On-Going Publication	S. kirthika and J. Methmani <i>Systematic Literature Review on Automatic Hierarchical Product Classification</i> . [Short Paper].	
Skills	<i>Languages:</i> Python, R, Java, JavaScript, HTML <i>Database/Server:</i> My SQL, MongoDB <i>Frameworks:</i> Hadoop, spark, TensorFlow, Pandas, Seaborn, NumPy, NLTK, Node.js <i>Cloud Platforms and services:</i> AWS: Amazon sage maker, AWS Lambda, amazon event bridge, and Amazon ground truth labelling.	
Industry Experience and Research	Ascentic Pvt Ltd, Sri Lanka Data scientist Intern	May 2022-August 2023
	<ul style="list-style-type: none">• Product-categorization (Qvalia): Collaborated with the team in developing a Deep Learning Methodology on a retail hierarchical taxonomy classification, and thus improving a language model performance on product categorization task.• Analyzed and pre-processed Postgre Database containing 78 million data points using DBeaver & Python, identified Unique patterns in text features that had direct impact on business operations utilizing Python, Seaborn, Excel and Matplotlib• Experimented with different Machine learning models and Sequential Models such as RNN, LSTM and Pretrained models such as BERT for language classification tasks• Collaborated and conducted Literature Review on Research projects in retail domain. Successfully presented the POC of a Machine Learning project with the team and impressed clients.• Performed data retraining for different multi-class categories with AWS sage maker and explore other services such as S3, Textract and amazon Translate.	
Academic Research Experience	Recommending actionable improvement strategies for Hospitality Services in Hotels: Enhancing Decision-Making and Computational Efficiency with Senior Lecturer Prasan Yapa	July 2022-Present
	<ul style="list-style-type: none">• Conducting literature review on leveraging hotel customer reviews in in context learning.• Experimenting with Large Language models like GPT-3 and Llama for sentiment analysis and prompting techniques for personalization of hotels using libraries like Langchain.• Experimenting with knowledge distillation and synthetic data generation for implementing computationally efficient and scalable product using amazon sage maker and python.	
	Data Science Group Project with Senior Lecturer, Miss Fathima Farath	September 2021- April 2022
	<ul style="list-style-type: none">• Led a group of 4 members to develop an innovative website and an app for diagnosing covid-19 using respiratory sounds and voice to self-monitor the covid-19 patient' s progress level.• Designed and pre-processing a combination of audio data, creating, testing, and ensembling 6 CNN models to identify positive individuals using Python, Librosa and TensorFlow.• MERN stack, Flutter-for mobile application and Agile project management using Click Up	

Highlighted
Course
Projects

Accident and Violence Detection at the Edge

March 2023-April 2023

- Led a group of 4 members to develop a mobile application to run a CNN model on the edge. The application is capable on having inferencing at the end device and retraining of the model in the cloud using AWS Lambda, amazon event bridge, Amazon sage maker and Amazon ground truth labelling.
- Utilized TensorFlow and TensorFlow lite for implementing CNN architecture and to make it scalable.

Data pipeline for arvix research article trend analysis

April 2022

- The pipeline includes data cleaning using Spark.
- and monitoring using the Hadoop ecosystem to deliver it into a dashboard application.

K-means cluster analysis with silhouettes of vehicles

March 2022

Conducted **K-means cluster analysis** with several silhouettes that is related to vehicle types in R

Identifying path using search techniques in 8X8 matrix

Dec 2021

Implemented Search technique (Informed and Uninformed) solutions for path in 8X8 matrix in python and Java.

Key Achievements

Participant, in a team in Datathon

August 2023

- Site selection for renewable energy generation in Sri Lanka using machine learning algorithms.
- Utilized k-means clustering techniques, SVM, decision tress and Artificial Neural network.
- Estimated cost-effective construction in regards to solar and wind power generation.

2nd Runner Up as a Team in TADHack 2021

September 2021

- Mobile-app and website were implemented to diagnose heart attacks and blood pressure.
- User-friendly application to schedule appointments with doctors for the patients.
- MERN Stack was utilized with TensorFlow, flask, flutter, etc.

Participant, her<HelloWorld>v1.0 hackathon

August 2021

- Developed an online pet shop with Node and Html, CSS

The annual prize-giving recipient, Belvoir College International

- Developed an Awarded for Excellence in IAL Mathematics
- Awarded of Excellence for 3A*s AND A (IGCSE) in annual prize-giving

Community
Involvement

Knowledge sharing session, Ascentic, *volunteer*

September 2022 -May 2023

- Conducted a session on python about modules, packages, and Expectation handling to 20 industry members
- Conducted a presentation about internship experience for university students (KDU-General Sir John Kotelawala Defence University) for about 50 members.

Vibe Booster, Ascentic, *volunteer*

November 2022 -January 2023

- Conducted online engagement sessions as a Host for a team of 10 in the industry

We can project, Rotaract club, *chairperson*

Jan 2021-April 2021

- Community service project focusing on young women and sanitation, and it was awarded as one of the Most Outstanding Initiative: Disease Prevention in the district (Colombo).

Ignite project, Rotaract club, *Member*

September 2020-December 2020

- Community service project focusing on helping children with financial and other disabilities to enhance their educational background.

One day projects, Rotaract club, *Student volunteer*

- Community service project Futsal, placed a stall in a futsal tournament conducted for about 50 IIT members
- Marine Beach Clean Up, volunteered for tidying the beach with 20 team members.