Shantha kumar

Mobile: +91 9080853461 GitHub: shanthakumar21 LinkedIn: shanthakumar21 Email: shantha2106@gmail.com

Education

Sri Venkateswara College of Engineering (Anna University) **Chennai,India**
B.Tech in Information Technology; GPA: 7.65/10.0 *2017-2021*

Experience

Solarillion Foundation **Chennai,India**
Undergraduate Research Assistant *Jun 2019-Jun 2021*

- Designed a Machine learning pipeline that can perform on-device detection of arrhythmia in wearable devices.

Teaching Assistant *Jun 2021-Present*

- Teaching Machine Learning using Python for freshman students.
- Mentoring students on undergraduate research and paper writing.

Grroom **Mumbai,India**
Machine learning intern *Feb 2021-Mar2021*

- Worked on an outfit recommendation system based on yolo-v3 and yolo-v4.
- Trained the base models with multiple datasets and tested the outfit classification system.

Research and Publications

Real-time Attention Span Tracking in Online Education(Paper) **Boston,USA**
Rahul Rk, ***Shanthakumar S****, Vykunth rao, Sai Ramnath krishnan* *Oct 2020*

- Published at the MIT-Undergraduate Research Technology Conference(**MIT-URTC**)2020.

End-to-End Optimized Arrhythmia Detection Pipeline using Machine Learning for Ultra-Edge Devices (Accepted)(Paper) **Florida,USA** *Dec 2021*
Sideshwar JB, Sachin Krishan, Vishal Nagarajan, ***Shanthakumar S****, Vineeth Vijayaragavan*

- Accepted at the 20th International conference of machine learning and application(**ICMLA**)2021

Real-time smart vehicle surveillance system(Accepted)(Paper) **Dubai,UAE**
Shanthakumar S*, Vykunth rao, Jayanthi D* *Dec 2021*

- Accepted at the 5th International Conference on Applied Sciences, Engineering, Technology And Management (**ICASETM-21**)

Projects

Vehicle Detection and Integration In database

- Detection and tracking of suspect vehicles using attributes extracted from CCTV footage.
- License plate recognition, vehicle make, model, color, damage, location, peculiar attachments are the features extracted -real time integration in firebase.
- 7 neural networks and algorithms with 12 distinct predictions.

Attention Span Tracking

- Advanced proctoring system developed using Image processing in Python to prevent cheating in online classes and exams using webcam and microphone.
- Blink rate detection, Eye-gaze tracking, Emotion classification, Body posture estimation, Background noise detection, and Facial Recognition were implemented.
- Multi-threading function was used to combine the above parameters to calculate the real-time attention span.

Flight Delay Prediction

- A two-stage machine learning model that predicts the Flight delay in minutes.
- Algorithms such as Extratrees, XGboost, Logistic regression, and decision trees were explored.

Corona and Pneumonia classification

- Implemented AlexNet and LeNet for disease classification.
- This work makes use of CT scans for training and testing.

Skills and Coursework

- **Programming Languages**: Python, C, C++, SQL.
- **Frameworks and Libraries**: PyTorch,Tensorflow, Scikit-learn, Pandas, Numpy, Keras.
- **Others:** Ms Office, Git, LaTeX, Adobe Photoshop.
- **Courses**: Probability, Statistics, Data Structures, and Algorithms.

Leadership skills

F.O.R.E.S.E(Forum of Economic Studies by Engineers)
Chennai,India

Tech Head *Jun 2019-Jun 2020*

- Designed and Maintained the placement cell's website.
- Designed a test software that was used to conduct Aptitude tests for the pre-final year students.
- Mentored 10 students in web-dev and design.

Senior Member *Jun 2020-Jun 2021*

- Networked with several Hr's for the mock placements.
- Organized For-Ed(foreign education) event.

Achievements

Smart India Hackathon Finalist(National level Hackathon) **Aug 2020**

- Project – Vehicle Recognition and Compilation in Database software.
- Selected as Top 5 from over 450,000 students all over India.
- A Memorandum of Understanding was signed between SVCE and the Govt. of Madhya Pradesh through this project.
- Recognized by the Indian Ministry of education as one of the top 5 innovations for business incubation in India

Secured second place in Hack and Tackle 2.0(National level Hackathon) **Feb 2020**

- Project- Attention span tracking in online education using Artificial Intelligence.
- Second place from over 100 teams.

Secured second place in Make-a-thon 2.0(Intra college Hackathon) **Jan 2020**

- Project- Students monitoring system.
- Second place from 25 teams.

Extra-Curricular

- Class Representative.
- Member- Leo club.
- Member- Photography club.
- Arctic code vault contributor-GitHub.
- Frequent Blood donor.