JEGADIT SAKTHI SARAVANAN

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Education

Amrita Vishwa Vidyapeetham, Coimbatore   **2020 - 2024**
B.Tech in Computer Science and Engineering   *Aggregate: 8.19/10*

Experience

Deep Water Marine Club (DWMC) | Website | LinkedIn   **May 2022 – Present**
Founder of the club, Robotics Engineer & ML/DL Researcher

- Supervised the design and construction of the Autonomous Underwater Vehicle (AUV)
- Spearheaded the integration of advanced sensor technologies into the system, enhancing the precision of navigation and control by 25%
- Successfully applied DL techniques based on reinforcement learning in automating the navigation of the AUV.

TIFAC-CORE in Cyber Security | Website   **Nov 2022 – March 2023**
Part Time Project Staff   *Amrita Vishwa Vidyapeetham, Coimbatore*

- Performed various application testing strategies, reverse engineered and rebuilt applications with custom vulnerabilities.
- Successfully emulated the CVE-2019-11932 vuln in an isolated virtual environment on older versions of WhatsApp.
- Built a Neural Network Architecture that can distinguish Encrypted and Compressed data with an accuracy of 72%

Projects & Publications

AI-based hybrid optimization of ML models | IEEE Xplore | *Python, scikit-learn*

- Developed a parameter fine-tuning technique for ML models using hybrid of Genetic Algorithm & Simulated Annealing.
- Improved the accuracy of the ML models by 10% & reduced the training time of the models by 4%.

Amrita University Canteen App | Github | *Python, Flask, Tensorflow*

- Created a Web application using Flask to show the current menu and crowd statistics in the college's canteens.
- Custom DL models were built on the 'ssd-mobilenet-v2-fpnlite-320' model to process and extract data from CCTV images of the menu. The same CCTV images were also used to process the crowd density in the canteen.
- This is under review by the college board, to be adopted in canteens.

Customer Churn Prediction Analysis | Github | *Python, Flask, scikit-learn*

- Created a Web application using Flask to analyze the churning of customers from a service using ensemble techniques like max-voting and stacking in Machine Learning.
- The model developed with the ensemble techniques resulted in a model with an accuracy of 98%.

Profile Builder and Networking Application | Github | *Python, Flask, MySQL, AWS, Docker, Jira*

- Web app. built for the students & faculties of Amrita University to network people based on their desired research field
- Built using HTML, CSS, JS on a Flask webserver with MySQL database by following the SCRUM framework.
- Was tested in an isolated docker environment,& following the DevOps practices, was deployed on an EC2 AWS instance.

Technical Skills

Languages: C, C++, Python, Java, JavaScript, Haskell, Bash
Developer Tools & frameworks: VS Code, Eclipse, Google Cloud Platform, TensorFlow, Android Studio, AWS, NGROK, NGINX, GIT, Docker, Wireshark, Postman, Burp Suite, ApacheWeb Server, Jira
Modelling Tools: SketchUp, SolidWorks, AutoCAD
Web Technologies & frameworks: HTML, JDBC/ODBC, Flask, Bootstrap, REST and JavaScript, CSS
Database & OS: MySQL, Windows and Linux

Achievements/Extracurricular

- Level 5 robotics certificate holder from AROBOT institution
- Volunteered for seva activity work at AIMS Kochi
- DIPLÔME D'ÉTUDES EN LANGUE FRANÇAISE - DELF A2
- Successfully qualified in NATIONAL ENGINEERING OLYMPIAD 5.0 (NEO5.0)