Shalini Ragothaman

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EDUCATION

Virginia Polytechnic Institute and State University (Virginia Tech) *August 2020*
Master's, Computer Engineering GPA: 3.40

Visvesvaraya Technological University *July 2017*
Bachelor's, Electronics and Communication Engineering

SKILLS

Languages: **C/C++, Python, MATLAB, SQL, XML, HTML/CSS, R**
Software & Frameworks/Tools: **PyTorch, OpenCV, Flask, ReactJS, AWS, Linux OS, TensorFlow**

WORK EXPERIENCE

Graduate Research & Teaching Assistant, Virginia Tech May 2019 - May 2020
Languages and Tools: C++, Microsoft AirSim & Azure, DJI Tello Drones

- Developed C++ client-server socket programming APIs to control DJI Tello drones and receive video input using multi-threading as part of the design of a new Object Oriented Programming course
- Simulated the drone control with the designed APIs using AirSim on Microsoft Azure by configuring its Docker image

Software Engineer in Test(Associate Consultant), Oracle Financial Services Sep 2017 - June 2018
Languages and Tools: XML, PL/SQL, Oracle Database

- Developed extensive user-friendly features for the automated web service testing software to support SOAP and REST channels transporting XML/JSON data requests
- Performed functional, regression and user-interface testing of FLEXCUBE while contributing to all phases of the Software Test Life Cycle from Requirement Analysis to Test Closure
- Strategized test plans & automation scripts with multiple teams and detected around 70 novel defects using JIRA

RESEARCH EXPERIENCE & PROJECTS

Deep Learning Web App - Understanding and Interpreting Paintings Nov 2019 - Present
Languages and Tools: Python, PyTorch, Flask-RESTful, React

- Designed an end-to-end deep learning system that can write formal analyses of paintings using NLP model OpenAI GPT-2 subsequent to performing image pattern recognition using the ResNet-50 and other Computer Vision algorithms
- Processed and analysed collected data from museum curated datasets and through collaboration with the Art Dept.
- Building a back-end Flask-RESTful API and a React front-end web app to host the created deep learning system

Deep Learning for Android - An App for High Speed Bicyclists Feb 2019 - May 2019
Languages and Tools: TFLite, Java, Android Studio

- Deployed the YOLO network as a mobile app to detect objects and alert signs to assist bicyclists in slipstreaming
- Accomplished reduction of model size by 50% and improved latency by 2 folds through model optimization

Data Analytics - Kaggle's Categorical Feature Encoding Challenge Oct 2018 - Dec 2018
Languages and Tools: Python, Scikit-Learn

- Experimented with optimal encoding & feature selection techniques for a variety of categorical statistic data
- Achieved improved regression performance within the top 90 percentile of ranks

PATENT AND AWARDS

An Automated Waste Segregation System using Artificial Neural Networks Aug 2016 - Aug 2017
Constructed a novel embedded system equipped with conveyor belts and robotic arms to automatically segregate waste objects based on labels classified by designed deep learning algorithms

- Patent published for the invention at the Indian Patent Office - Application No: 201841025096 and received a grant for the execution of the project by the Indian Institute of Science (IISc), Bangalore