Dinesh Kumar Gnanasekaran

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Education

University of Southern California, Los Angeles, California, US **August 2021-May 2023**
Viterbi School of Engineering **GPA: 3.35/4**
Master of Science, Electrical Engineering

Amrita Vishwa Vidyapeetham, Coimbatore, Tamil Nadu, India **July 2016-June 2020**
Bachelor of Technology, Electronics, and Communication Engineering **GPA: 8.91/10**

Skills

- Programming Languages: Python, JavaScript, Node.js, Bash, Go, C++, HTML/CSS, SQL.
- Tools: Git, Linux, Jupyter, Docker, Amazon EC2, Amazon S3, MATLAB.
- Frameworks: OpenCV, NumPy, Tensorflow, Keras, PyTorch, Scikit-Learn, Pandas, Flask, FastAPI, Django.

Experience

Deep Learning and Medical Image Analysis Intern **January 2022-Present**
Hura Imaging Inc., Los Angeles, California
- Working in the enhancement of Computed Tomography Perfusion and Computed Tomography Angiogram.

Machine Learning Research Intern **January 2021-July 2021**
Centre of Development for Edge Computing, Datafoundry AI, India

Face Recognition System
- Worked with team to implement face recognition pipeline using FaceNet and REST APIs for attendance marking.
- Reduced user registration process by 90% and improved accuracy of model by 60%.
- Optimized and deployed model in real-time on Myriad X VPU.

Coronary Angiogram Enhancement
- Managed project and developed deep learning approaches on enhancement of coronary angiograms.
- Prepared labeled dataset and trained a modified U-Net to generate blood vessel masks using TensorFlow.
- Developed a pilot product, leading to funding from Innovation Imaging Technologies Private Limited.

BSC-OCR
- Created an end-to-end pipeline for automated digitization of tabled records of Bombay Stock Exchange(BSE).
- Designed techniques for extraction of cells from tabled records and custom trained Tesseract-OCR.
- Reduced data entry time effectively leading to more efficient workflow.

Projects

Comparison of NumPy, PyTorch, and TensorFlow models 🔗
- Built a two-layer fully connected neural network using NumPy, PyTorch, and TensorFlow.
- Compared performance and training time of neural network for different libraries.

StyleTx 🔗
- StyleTx is a project in Python that applies effects/style of one image to another.
- Replicated prominent paper on style transfer, using a pre-trained VGG-19 network.

aMaze 🔗
- aMaze is a web application comprising three maze generators as well as four maze solvers.
- Users can create random mazes and solve or choose an algorithm to solve mazes for you.

Conway's Game of Life 🔗
- Built a web application to simulate a popular cellular automaton Conway's Game of Life.

Publications

- Dinesh Kumar G, Sarath. R. Menon, N. Sreevathsava, P. M., P. V. S. Nag and C. S. Kumar, "Stator Inter-turn Fault Diagnosis and Fault Location in Synchronous Generator using Dual Extended Kalman Filter and Linear Regression Analysis," 2020 5th International Conference on Communication and Electronics Systems (ICCES), 2020, pp. 52-57.🔗
- Dinesh Kumar G, Sarath. R. Menon, M Pradeep, Ramanathan R, "Metaheuristic approach to optimal pathfinding in wireless charging of sensor nodes using autonomous bots", Procedia Computer Science, Volume 171, 2020, Pages 2147-2156.🔗