MAHESHWAR KUCHANA

MACHINE LEARNING ENGINEER

OBJECTIVE

I am a Research-oriented person & ardent learner, keeps updated with cutting-edge technologies and utilize my skills for the growth of the organisation

SKILLS

- TensorFlow
- CNNs
- Deep Learning
- Computer Vision
- OpenCV
- Machine Learning
- Python
- Flask - API
- AWS Cloud
- MySQL
- Git
- Beautiful Soup
- Project Management

NOTABLE ACHIEVEMENTS

- Got Funded Rs. 10000 for AI solution for COVID-19 using CT-scans, X-rays
- Winner of Computer Vision Challenge in Off Campus Hack by Skillenza
- Won 2nd Prize in Hack Infinity CTF Competition held by Cyber Square
- Stood in 5th position in Hackathon conducted by Alibaba

SOCIAL DETAILS:

Mobile:+44 (0)7825958328
Email: kmaheshwar1998@gmail.com
GitHub: github.com/maheshwarkuchana
LinkedIn: linkedin.com/in/maheshwarkuchana
Portfolio: www.maheshwark.com
Scholar: scholar.google.com/citations?hl=en&user=8AevgCUAAAAJ

WORK EXPERIENCE

Project Manager & AI Engineer

Nimblr Data Pvt Ltd (London) | July 2021 - Present

- Developed MVP for the project. Managed a team to deliver the MVP in a shorter period of time
- Working on SaaS platform that recommends IT infrastructure to Fintech industries, Banks using AI.

Machine Learning Engineer

Scienaptic Systems Pvt Ltd | October 2020 - January 2021

- Developed AI-based solution for document understanding for Credit Underwriting problem.
- Dealt with Table Detection and Table cell extraction in both readable and non-readable digital documents.
- Developed an end-to-end working solution for a client to parse the bank statement transactions for most of the banks.
- Built backend API to retrieve financial transactions from various bank statements (contains different types of tables) to analyze credit underwriting issues.
- Deployed in AWS environment using EC2, S3, SQS, SNS services.
- Worked on Flask APIs, Table understanding, AWS.

AI Engineer

Adventum Advanced Solutions | May 2019 - September 2020

- AI for Disease Diagnosis (Diabetic Retinopathy, Glaucoma, AMD) using OCT, Fundus images (Cirrus 500/5000) in Ophthalmology.
- Developed PACS software that integrates to AWS and CT modalities
- Designed deep learning architectures for Semantic segmentation, Anomaly detection, Classification, Auto Encoders for Medical Images.
- Dealt with classical Computer Vision techniques like Denoising, Segmentation, Registration, Restoration.
- Worked on Flask APIs, TensorFlow, OpenCV, Scikit image frameworks.

Summer Research Intern - Machine Learning

BML Munjal University | May 2018 - July 2018

- Developed a Fingerprint verification module with machine learning techniques.
- Worked on classical computer vision and ML to match fingerprints.
- Proposed a new way to focus on Region of Interest to reduce computation in verifying fingerprints with an existing database.

PUBLICATIONS

Machine Learning predicts live birth occurrence before In-vitro fertilization treatment
Scientific Reports - Nature
DOI: 10.1038/s41598-020-76928-z

AI aiding in diagnosing, tracking recovery of COVID-19 using deep learning on Chest CT scans
Multimedia Tools and Applications (MTAP) - Springer
DOI: 10.1007/s11042-020-10010-8

Fingerprint Matching - An Experimental Approach
International Journal for Research in Applied Science & Engineering Technology (IJRASET)
DOI: 10.22214/ijraset.2020.6283

CERTIFICATIONS

- Neural Networks and Convolutional Neural Networks Essential Training - LinkedIn
- Deep Learning - Face Recognition - LinkedIn
- AI From the Data Center to the Edge – An Optimized Path Using Intel® Architecture - Intel
- Structuring Machine Learning Projects - Coursera
- Convolutional Neural Networks in TensorFlow - Coursera
- Improving Deep Neural Networks: Hyperparameter tuning, Regularization and Optimization - Coursera
- Introduction to TensorFlow for Artificial Intelligence, Machine Learning, and Deep Learning - Coursera
- AI for Medical Diagnosis - Coursera
- Intro to TensorFlow - Coursera
- Neural Networks and Deep Learning - deeplearning.ai
- Machine Learning - Coursera
- Python for Data Science - IBM
- Machine Learning with Python - IBM
- Applied Data Science with Python - IBM
- Data Science Hands-On with Open Source Tools - Cognitive Class
- Data Science Methodology - Cognitive Class
- Data Visualization with Python - Cognitive Class
- Learn Computer Vision with OpenCV using Python - Udemy
- Building RESTful APIs with Flask - LinkedIn
- Secure Coding in Python - LinkedIn
- Learning Django - LinkedIn
- Using Python for Automation - LinkedIn
- Introduction to Quantum Computing - LinkedIn
- Text Retrieval and Search Engines - Coursera
- Launching into Machine Learning - Coursera
- Python Programming - Udemy
- Intel College Excellence Program - Intel Corporation
- UC Berkeley Executive Education - University of California, Berkeley

IN NEWS

AI In The Battle Against Cancer

Link: https://replica.substack.com/p/ai-in-the-battle-against-cancer

Study ML/AI Abroad - Leap Scholar

Link: https://youtu.be/HklgSpktV90

ACADEMICS

King's College London - (2021 - Present)

Masters of Research in Healthcare Technologies (Artificial Intelligence)

PROJECTS

Diagnosing COVID-19 with CT-scans, X-rays

- Created Deep Learning architectures for finding biomarkers in 3D CT scans, X-rays to diagnose COVID-19.
- Achieved 95% accuracy, 91% Specificity, 93% Sensitivity.
- Implemented Risk Analysis with 3D volumetric analysis in CT scans.
- Verfied platform performance with a couple of Radiologists.

Image Super Resolution Using Autoencoders

- We train an autoencoder and use it to significantly enhance the quality of images i.e., our neural network will create high-resolution images from low-res source images.

Fooling Neural Networks

- Developed ways to fool neural networks to function as per our wish
- Modifying weights and biases, Backdooring, Extracting information are the techniques used for this purpose to hack them.

Chest X-Ray Medical Diagnosis with Deep Learning

- Medical image diagnosis by building a state-of-the-art chest X-ray classifier. Used transfer learning to retrain a DenseNet model for X-ray image classification and visualize model activity using GradCAMs.

Brain Tumor Auto-Segmentation for Magnetic Resonance Imaging (MRI)

- Built a 3D U-Net architecture to automatically segment tumor regions in the brain, using MRI (Magnetic Resonance Imaging) scans.
- Three classes: Edema, Non-Enhancing Tumor, Enhancing Tumor were segmented with sensitivity & specificity of 88.87%, 99.23% respectively

Lymph Node (Lymphoma) Cancer detection

- Using Histopathological images of lymph nodes of humans, a CNN deep learning architecture is employed to classify between tumorous and non-tumorous tissue.

Retinal Vessel Segmentation in Fundus Scans

- Semantic Segmentation of vessels and arteries in retinal fundus scans gives details for a doctor to analyze few eye diseases. Implemented LadderNet, a CNN-based neural network architecture.

Behavioral Recognition – Real time

- Implemented face, emotion, pose estimation to find attendance, the behavior of students in class. Post analysis is done from the data. Implemented using Deep learning algorithms. Deployed on university's server.

Face Recognition – Real time

- Implemented face recognition biometric verification to count the frequency of a person visiting the library. Post analysis is done from the data. Implemented using python, machine learning algorithms.