Ashish Verma

Machine Learning Developer

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Summary

Passionate Machine Learning Engineer with 3+ years of experiences in developing end-to-end Machine Learning Projects. Effectively researches techniques for novel approaches to problem, develops prototypes to assess viability of approach, and deploys application to production. Skilled in Python, Computer Vision, Deep Learning, Machine Learning.

Skills:

Python, C#, TensorFlow, Keras, Fast API, Flask, NumPy, OpenCV, DLIB, scikit-learn, Tesseract, MQTT, Dask, MLFLow, DVC (Data Version Control), Docker, AWS Sagemaker, Azure Storage, Tensorflow Serving, GitHub.

Experience

Konsultera Solutions Pvt Ltd   March 2020 – Present.

Machine Learning Developer.

List of Projects:

1. End-To-End ID Card Data Extractor:
   - Trained Id Card Detection model using TensorFlow YOLO-v3 architecture.
   - Have Trained Id Card Field Detection model using TensorFlow YOLO-v3 Architecture.
   - Retrained tesseract model for Optical Character Recognition (OCR).
   - Digital Image Tampering: Research and Developed Machine Learning Model for localizing the forged region.
   - Blurriness Detection: Performed binary classification using Machine Learning technique such as SVM.
   - Character Classification: Developed Convolutional Neural Network frameworks for predicting single character image.
   - Image Angle Detection: Developed Convolutional Neural Network frameworks performing classification on the image angle, using Python and keras library. Leveraged weight matrix of pre-trained models such as VGG, Inception & ResNet, performed hyper parameter tuning to improve model's performance.
   - Image Denoise: Design and Developed CNN Autoencoder to eliminate noise from the image. Used Ensemble technique with Autoencoder to train the model.
   - Integrated Tesseract OCR by initially preforming different preprocessing technique using OpenCV.
   - Used Flask framework to develop entire backend modules in Python. Created independent libraries in Python which can be used by multiple projects which have common

functionalities.

2. Fire Detection:
   - Used Optical Flow technique to detect motion of individual pixel in image plane.
   - Developed Convolutional Neural Network frameworks performing classification on fire using Keras library.
3. ML as a Service:
   - Integrated most of the TensorFlow Image Classification and Object Detection model such as VGG, DenseNet, ResNet, MobileNet, EfficientNet, YOLO-v3, etc.
   - Created an Image Preprocessing Pipeline.
   - Integrated MLFlow for managing the end-to-end machine learning lifecycle.
   - Developed a Model Serving system using FastAPI.
   - Integrated Data Version Control (DVC) tool for controlling the dataset version.
   - Implemented Dask for lazy dataset loading.
4. Video Surveillance System:
   - Significantly contributed to integrate MQTT messaging protocol for data exchange between constrained devices and server applications.
   - Integrated TensorFlow Serving to serve TensorFlow model using Python.
   - Trained Rodent Detection model using SSD MobileNet Architecture to detect rodent in the frame.
5. Integrated a table detection model. Extracting the data from the table using OpenCV, and stored the data in json format.
6. Written a code to manage the models inside the Azure container.

FitnessForce(Grip Technologies Pvt Ltd)   September 2019 – February 2020.

Data Scientist.

List of Projects:

1. Face Recognition System:
   - Have used transfer learning methodology by extracting the features from a Pre-Trained Model and feeding the extracted data to a Neural Network and training it for Image Classification.
2. Trained and deployed the model on Amazon Web Service (AWS) using AWS Sagemaker ,S3 Bucket.
3. Deployed the Face Recognition Model on Mobile device (Android, iOS).
4. Face Spoofing Detection:
   Implemented Anti-Spoofing Techniques for Face Recognition Solutions.

Fluid AI (Trutech Webs Pvt. Ltd.):   July 2018 – August 2019.
Software Developer.

List of Projects:

1. Developed incremental update for face Recognition using OpenCV and Dlib :
   - Choosing the most relevant face(s) from a group of people.
   - Detecting face position to make face recognition rotation invariant.
   - Restricting the region of screen for the face(s) to be detected.

- Used face recognition in authenticating application.
- Invoking C++ face recognition executables from cross-platform c#.

2. Contributed in developing internal projects:
    - Calling functionality from the application using Twilio.
    - Playing relevant Virtual Person Avatar videos in application on different events such as body detection, Face Recognition, etc.
    - Printing relevant files.
    - Front-end development using WPF.
    - Designing and Developing touch and gesture based (Augmented Reality) UI Feature.
3. Developed and deployed incremental versions for client-projects which makes the use of both touch and gesture based (Augmented Reality) interface.
4. Resolving ad-hoc issues, continuous testing and documenting for all projects.
5. Developed Convolutional Neural Network frameworks performing classification on the hand gestures.

IFI Tech Solution Pvt. Ltd.:   January 2017 – June 2018.
Software Developer.

List of Projects:

1. Power BI Custom Visual Development: Developed a Power BI Embedded Web Application to get the reports from a particular workspace onto the webpage which help the Non-Power BI User to view the reports without creating their account in Power BI.
2. Developed the web API for internal Project and Migrated the existing project technology from ASP.NET to ASP.NET MVC.
3. Key Role in developing both front-end and back-end for an application software involving Power BI JavaScript API.
4. Have done the Modification on client website which includes adding a new page, updating the content of different pages using NodeJS, PUG.
5. Integrated Visual Studio Team Server to accomplish Continuous Integration/ Continuous Deployment.

Projects

- Implemented a Standalone Application '**Medical Inventory Management System**' for managing the medicine inventory using Java, JSF, Primefaces, with connectivity to MySQL database.
- Developed an '**Online Computer Assembly System**' for assembling the CPU Cabinet online using PHP, Bootstrap, MySQL.

Education

Year	Degree	Institution	Board	Specialization	CGPA / %
2018	Master of Computer Application	MET's Institute Of Computer Science, Mumbai	Mumbai University	Computer Science	7.27 /10
2015	Bachelor of Information Technology	R.D. National College of Science and Commerce, Mumbai	Mumbai University	Information Technology	67.78 %
2012	HSC	Fr. Agnel Technical High School& Junior College, Mumbai	C.B.S.E.	Science	54.50 %
2010	SSC	Fr. Agnel Technical High School, Mumbai	C.B.S.E.	-	61.64 %

Co-Curricular Activities

- Secured First position in School level Arts Competition.
- Volunteered for the college festival "**TECHTRIS 2015**".

Research Paper

- Published a research paper "**CLOUD CONTAINER**" on International Journal of interdisciplinary innovative research and Development (IJIIRD), having impact factor 2.5 & ISSN: 2456-236X in 03 Volume, issue 01.'

Personal Information:

Date of Birth: 26 November 1994   **Gender:** Male

Nationality: Indian   **Marital Status:** Married

Hobbies and Interests

- Listening to Music, Sketching, Fishing.