AADITYA ASATI

5+ year industrial experience, Data Science, Big Data Analytics, Machine Learning, AI, Fastapi application development

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SUMMARY

Data Scientist researcher with a total of 6.0+ years of industrial experience executing the data driven AI solution,building data intensive application on different problem statements in diverse application. Proficient in Big data predictive modeling, data processing,data mining as well as scripting languages, including python and javascript, html, Keenly interested to work on developing data driven efficient AI tool to execute complex business problems.

INDUSTRIAL EXPERIENCE

Data Scientist   *Jan 2022-Present*
Reliance Jio Infocomm Limited, Mumbai

Data Scientist   *2018-Present*
TCS Research & Innovation Labs, Bangalore

Industrial Data Analyst   *2014-16*
Subros Pvt Ltd, Noida

SKILLS

General Skills
Big data, Data Visualisation, EDA, Machine Learning, Deep learning, Data Preparation, Statistical Analysis, Application building, Application Containerisation, Docker,RestApis, Front-end development,

Big Data Analytic
Pyspark, Hive, HDFS

Data science algorithms
Linear Regression, Logistic Regression, SVM, SVR, Decision Tree, Random Forest, Ensemble, Hyper parameter Tuning, Grid Search, Random search, Deep learning Classification and Regression, Semantic Segmentation, Encoding, LSTM

Database
HDOOP, PostgreSQL, Elasticsearch, redis, mongo

Programming Skills
Python, Pyspark, Javascript, SQL, Scikit-learn, Open-CV, Seaborn, HTML, Keras-tensoflow

Application building
Flask, FastApi

Application Deployment
Docker

Simulation System
ROS, Gazebo, Pybullet, UNITY3D

PATENTS

Gripper apparatus for grasping objects
End to end solution for the e-commerce warehouse material addling
https://patents.google.com/patent/US20210291384A1/en
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PAPERS

Attentive One-Shot Meta-Imitation Learning From Visual Demonstration
Attentive One-Shot Meta-Imitation Learning From Visual Demonstration
https://ieeexplore.ieee.org/abstract/document/9812281
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PROJECTS

No code Datascience platform building *July 2022-Current*
Reliance Jio infocomm ltd

- End to end data science platform for no code users.
- Indigenous data science platform for data exploration with hive connection.
- Modules for feature engineering, feature transformation with python kernel.
- Module for Model building and deployment with pyspark and endpoint exposure with seldon.

Telecom customer churn prediction *Feb 2022-April 2022*
Reliance Jio infocomm ltd

- Data collection and data preprocessing for 5 million customers.
- Implementation of customer churn prediction with 90 percent accuracy.

5g Planning and potential customer identification *July 2022-Aug 2022*
Reliance Jio infocomm ltd

- Big data analytics for India's major cities for 5G planning and visualisation of the 5G enabled buildings.

Attentive One-Shot Meta-Imitation Learning From Visual Demonstration *2021-current*
TCS Research & Innovation Labs

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Surface curve detection reconstruction and axis identification using deeplearning algorithm
2020-current
TCS Research & Innovation Labs

- Working on pointnet++ Deep learning architecture implementation for 3D point cloud segmentation.
- Detection of hole center from a image using a Convolutional Neural Network VGG-16 network.
- From multiple depth maps (RGB-D image) point cloud is merged to generate a mesh object and generate the surface normal from the mesh.
- Combined the above method to detect the hole center on a curved or a unstructured surface to do autonomous assembly in colaborative environment.

Skill transfer : Learning human skill using Machine learning algorithms from few demonstrations data for Industrial assembly task using robotic manipulator *2019-2020*
TCS Research & Innovation Labs

- Data collected from robot for Cartesian position, velocity force involved in the task. Outliear are removed using IQR and Z-Score algorithms.
- Designed a multivariate nonlinear regression model to predict the velocity of the tool tip given interaction forces to imitate expert demonstrations for assembly task.
- Implemented a Gaussian Mixture Regression Model for approximating the state-action transition and tested it in a simulated assembly task using UR10 in pybullet environment.
- We collected the real world data using KUKA LBR iiwa 14 robot, and used Robot Operating System (ROS) for algorithm deployment and we are working on implementing the algorithm on the same.

Realtime yoga pose detection and followup score generation with monocular camera. *2020*
Yogin technologies pvt ltd

- Worked on product feature planning and using state of the art pose estimation and human tracking models to get the similarity/matching score of the user (learner) with respect to the trainer (expert) video.
- Targeted the 3D pose estimation from the monocular camera and generating the score by comparing with the expert video.
- We used the opensource openpose estimation API to generate the joints pose for web implementation we used the Posenet API and used this vector to classify the yoga pose using neural network.
- To generate the score we compare the encoding of the sequence of the images by first aligning the sequence from the expert video and user feed using Dynamic Time Wrapping Method and then feeding the encoded vector to the neural network.

Design of generic robotics gripper for multiple types of parcel handling *2018-2019*
TCS Research & innovation

- Designed a gripper which can handle a wide range of shape, size, weight and packaging of a parcel.
- The gripper also has the ability to work in a unstructured environment for sorting and arranging multiple parcels in a very tight clearance environment.
- Filed multiple patents on novel gripper design technique.

Laparoscopic training system development with virtual environment and 6DoF haptics device
2017-18
IIT Ptana

- · Design and developed parallel cable driven 3DoF kinesthetic haptic feedback device and Cutaneous haptic feedback device for tactile sensation to mimic the touch sensation for laparoscopic simulation.
- · Developed a virtual environment in UNITY 3D environment which replicate the internal tissue of the body and integrated haptics hardware to transfer the motion of the tool to virtual environment and also to display the touch sensation and kinesthetic haptic generated from the tissue and tool interaction in the virtual environment to the human hand.
- · Developed the algorithm to estimate force and tactile sensation from the virtual environment generated from the tool and tissue interaction.

Data collection, root cause analysis and improvement planning   *2014-2016*
Subros Pvt. Ltd.

- · As an Industrial data analyst,my responsibility was identification of the root cause for various production issues based on the data collected and analysed by various tools like Power BI.
- · implemented Power BI tool for data analysis.
- · Increased the productivity of lines by 50 percent, by implementing 7 types of industrial waste removal principles (Muda) on the manufacturing and assembly process.
- · Implemented zero energy solution by developing the parts transfer chute for small distance part movements without human work involvement on various lines.
- · I was also part of a team to implement the Automated guided vehicle for large distance part movements.

Design & Development of All-Terrain Vehicle (ATV), SAE BAJA India   *2012-14*
Team Twaran NIT Silchar

- · Build the team and participated for the first time, representing the NIT Silchar in BAJA 2014.
- · Designed the cad model of the vehicle and testing the model in ANSYS for structural strength testing and MSC ADAMS for dynamic testing of the vehicle on various parameters.

CERTIFICATION

Machine Learning A-Z: hands on Python and R in data science ***Udemy 2020-21***

Python for Computer vision with OpenCV and Deep Learning ***Udemy 2020-21***

Building Deep Learning Applications with Kearas 2.0 ***Linkedin Learing 2020***

Building and deploying Deep Learning Applications with tensorflow ***Linkedin Learing 2020***

Essential Math for Machine learning: Python Edition ***Linkedin Learing 2020***

Summer school on Computer vision and machine learning ***CVIT IIIT Hyderabad 2018***

EDUCATION

M.Tech, Mechatronics Engineering   *2016-2018*
Indian Institute of Technology Patna   *CGPA 9.0/10*
B.Tech, Mechanical Engineering (ME)   *2010-14*
National Institute of Technology Silchar   *CGPA 6.9/10.0*