



# Abhishek Sasidharan

## Machine Learning Engineer

### Profile Summary

- Offering nearly 5 years of experience in Data Science & Analytics, Machine Learning, Statistical Analysis, and Python Development within diverse industries.
- Currently excelling as an AI Engineer, demonstrating proficiency in machine learning, deep learning, NLP, and large language models to drive impactful outcomes.
- Possess strong skills in data visualization, predictive modeling, and cross-functional coordination.
- Proficient in developing customized data models and algorithms, with expertise in neural networks, clustering, and classification, enhancing predictive modeling and data analysis capabilities.
- Developed services such as Chatbots, Intelligent CCTV security system, and image recognition for Android/iOS/web applications, contributing to the advancement of AI technology and user experience.
- Currently leading the integration of a chatbot based on ChatGPT for Android/iOS/web applications with a PostgreSQL database, training and tuning large language models (LLMs) for generative AI, and collaborating on the development of machine learning and deep learning systems.

### Work Experience

#### Sep'23 to Present| AI Engineer | Art Technologies Pvt. Ltd., Kochi

##### Key Result Areas:

- Spearheading the integration of a ChatGPT-based chatbot for Android/iOS/web applications with a PostgreSQL database, demonstrating expertise in AI integration and elevating user interaction.
- Currently leading the training and fine-tuning of large language models (LLMs) for generative AI.
- Actively collaborating on the development of machine learning and deep learning systems, ensuring the creation of well-engineered, reliable, and maintainable code for various applications.
- Currently working on multiple large language models such as Llama 2 and ChatGPT, integrating LLM with multiple platforms.

##### Highlights:

- Developed innovative services, including Chatbots, an Intelligent CCTV security system, and image recognition for Android/iOS/web applications, contributing significantly to the advancement of AI technology and enhancing user experiences.

#### Oct'21 – Jun'23| Machine Learning Engineer | Quest Global Engineering Pvt. Ltd., Trivandrum

##### Key Result Areas:

- Analyzed data, conducted model training and inferencing, debugged, and maintained the code for the Log Analyzer project.
- Implemented unsupervised learning techniques, including K-mean clustering, and executed word vectorization methods such as Word2vec, Sent2vec, and Seq2vec, significantly contributing to the successful development and implementation of the Log Analyzer project.
- Designed & implemented machine learning algorithms to address engineering challenges.
- Performed data preprocessing tasks, including cleaning, normalization, and transformation.
- Created visualizations to communicate insights and results to both technical and non-technical stakeholders.
- Used visualization tools to present complex data metrics in clear & understandable manner.
- Executed updates and improvements to models based on ongoing feedback and evolving requirements.
- Utilized validation and hyperparameter tuning methods, such as K-fold cross-validation and Grid search.

##### Highlight:

- Successfully developed and implemented the Log Analyzer project with a focus on anomaly detection and sequence

Apply 4+ years of expertise in Data Science & Analytics, Machine Learning, and Statistical Analysis to tackle challenging projects in Data Science / Machine Learning, preferably in Bengaluru / Coimbatore / Kerala, with a focus on delivering impactful results.

### Contact

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### Areas of Exposure

- Data and Quantitative Analysis
- Data Regression Analyses
- Data Analytics, Statistical Analysis
- Data Mining
- Data Cleansing, Modeling
- Quantitative Analysis / Predictive Analytics
- Data Security
- Cluster Analysis
- Predictive Modeling
- Decision Analytics

### IT Skills

- Programming Languages: Python, SQL
- Python Libraries: NumPy, Pandas, NLTK, SciPy, Matplotlib
- ML Libraries: OpenCV, Scikit-learn, Tensorflow, Keras
- Python IDE: Jupyter Notebook, Pycharm
- Repositories: Git
- Experience: Computer vision, Image processing, NLP, Machine Learning, Data science

## Certifications

- ● 2022: Deployment of Machine Learning Models in Production & Python from Udemey
- ● 2022: Reinforcement Learning beginner to master - AI in Python from Udemey
- ● 2022: AI-900: Microsoft Azure AI Fundamentals in a Weekend from Udemey
- ● 2022: Machine Learning Using Google Colab & AutoML (Google Vertex) from Udemey

## Education

- ● 2015: Bachelor of Technology Degree in Applied Electronics & Instrumentation from IES College of Engineering, Chittilappilly with 77%

## Soft Skills

- ● Collaboration
- ● Communication
- ● Time Management
- ● Problem-solving

## Personal Details

**Date of Birth:** 24<sup>th</sup> August 1992  
**Languages Known:** English, Malayalam, and Hindi  
**Address:** Mootheri House, Chettupuzha P O Thrissur- 680012, Kerala

## **Jan'19 – Oct'21 | AI Specialist | Acsia Technologies Pvt. Ltd., Trivandrum**

### **Key Result Areas:**

- Developed desktop utility for local/cloud data synchronization, leveraging the AWS boto3 library.
- Designed & developed innovative artificial intelligence solutions to meet business objectives.
- Stayed abreast of the latest advancements in AI research and applied them to enhance existing solutions.
- Performed data preprocessing tasks, including cleaning, normalization, and transformation.
- Collaborated with cross-functional teams, including data scientists, engineers, and domain experts.
- Designed a camera-based monitoring system for driver alertness and distraction detection using the VGG-16 Single Shot Object Detection Transfer Learning approach.
- Created a utility for monitoring heart rate using machine vision and image processing, incorporating magnification algorithms.

### **Highlights:**

- Successfully built and deployed the AWS Desktop Utility, enhancing data synchronization efficiency.
- Implemented the Driver Monitoring System (DMS), contributing to improved driver safety monitoring.

## **Projects**

### **Art Technologies Pvt. Ltd.**

**Title: Chatbot development; Duration: Sep'4-Present**

**Scope:** Integration of a Chatbot based on ChatGPT for Android/iOS/web applications with PostgreSQL database

### **Quest Global Engineering Pvt. Ltd., Trivandrum**

**Title: Log Analyzer; Duration: Since Oct'21 (ongoing)**

#### **Scope:**

- Analyzing data, model training, and inferencing, bug fixing and maintaining the code
- Working on anomaly detection of process time and sequence in the log analyzer module, Based on XGBoost and LSTM network
- Implementing unsupervised learning techniques such as K-mean clustering
- Executing Word Vectorization methods such as Word2vec, Sent2vec and Seq2vec
- Utilizing validation and hyper parameter tuning methods such as K-fold cross validation, Grid search respectively

### **Acsia Technologies Pvt. Ltd.**

**Title: AWS Desktop Utility; Duration: Jan'19-Oct'21**

**Scope:** A desktop utility based on Tkinter and Pyqt for local/cloud data synchronization based on AWS boto3 library

**Title: DMS; Duration: Apr'19 – Dec'19**

**Scope:** A camera-based monitoring system that identify driver alertness and level of distraction. VGG-16 Single Shot Object Detection Transfer Learning approach used for detecting driver features to identify intoxication and smart phone usage

**Title: Heart Rate Monitoring Utility; Duration: Dec'19 – Apr'20**

**Scope:** A utility for monitoring the heart rate of a person using machine vision and image processing based on magnification algorithms. Libraries Used: NumPy, SciPy and OpenCV during the development of the module.

**Title: Chatbot; Duration: Apr'20 – Dec'20**

**Scope:** Text prediction model based on NLP, NLU and NLG concepts. NLTK, Sci-kit learn libraries used for the data pre-processing. Tensor-flow and Keras are used for the RNN/LSTM-based model development. Speech recognition library used for speech-to-text conversion. The whole system implemented in the Jetson Xavier-NX board

**Title: Intelligent Security Box; Duration: Dec'20 – May'21**

**Scope:** This offers uncompromising security using multiple AI-based modules such as face recognition, body pose detection, and object detection. Supports real-time video presentation and keeps records of data in internal storage and cloud. CNN-based models used for the detection of the face, object and body pose.