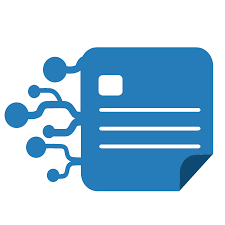
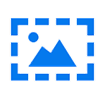
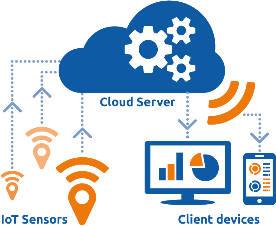
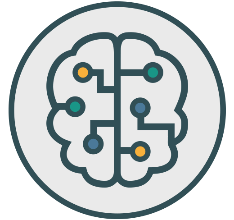
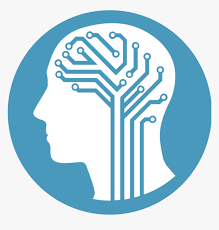
1. Home Page

Machine Learning is a subset of Artificial Intelligence(AI). It is the study of computer algorithms and neural network models that improves the performance of computers automatically with experience. It is an important aspect of modern day business and research. Machine Learning algorithms automatically build a mathematical model using sample data, also known as “training data”, to take decisions without being explicitly programmed to do so. Such algorithms are used to complete a wide variety of tasks - Natural Language Processing(NLP), Email filtering and Image Recognition, to name a few.

With the vast amount of data that we require to analyze on a daily basis, Machine Learning is an important tool that makes our work easier and also, saves a lot of time and resources. From the health sector, where artificial intelligence is being used to breakthrough the deadly virus COVID-19, to financial sector where ML is doing wonders completing 360,000 hours of work in mere seconds, to eCommerce in dealing with customer service with the use of chatbots, Machine Learning and Artificial Intelligence is omnipresent, saving billions of dollars. We might think that it is bad news for the human workforce, but both AI and humans are interdependent and one cannot work without the other.

SkyBits Technologies Pvt. Ltd. is an Artificial Intelligence company providing AI solutions worldwide. The core expertise of the company lies in mainly four domains, namely - Image Processing, Natural language processing, Statistical Analysis and Mobile Applications. The company, since its inception has worked in almost all major sectors, like Banking, Transportation, Sports, Education, Government, to name a few, for clients like Johnson & Johnson, State Bank of India, the Government of India, Alchemy, CyberSecurity(Malaysia), and many more.

Our core expertise of the company is in image processing, natural language processing, statistical analysis and mobile applications. Our primary associates include IBM, Microsoft BizSpark on the Business side while have IIT-Kharagpur and IIEST-Shibpur as our partners on the Academic side. We are a prestigious member of **NASSCOM**. We have association with PwC and have successfully completed many projects together. We receive a considerable number of third-party outsourced projects every year which shows that we are a reputed company with high street credits in the industry and are good at what we do.



Deep Learning

Statistical Analysis

Mobile Computing

and eLearning

Image Processing

**Industries and Domains**

**Banking**

The firm has implemented major solutions for some of India’s largest banks. The solutions include customer feedback & complaint management, automatic document classification, image based authentication, bulletin summarizer, automated credit analyser etc.

**Government**

The firm has executed major projects for the government sector such as Social media & public data based fraud detection, predictions modelling on big data, future price prediction modelling etc.

**Transportation**

Primary focus was the merchant navy firms around the globe. Major solutions include condition based maintenance system, Evidence based training for ship’s crew in maritime industry, intelligent drones for maritime activities etc.

**Sports**

One of the firms earlier work was developing a gaming solution that could detect injuries in sports health care. Other solutions include automatic tracking of players in a football game

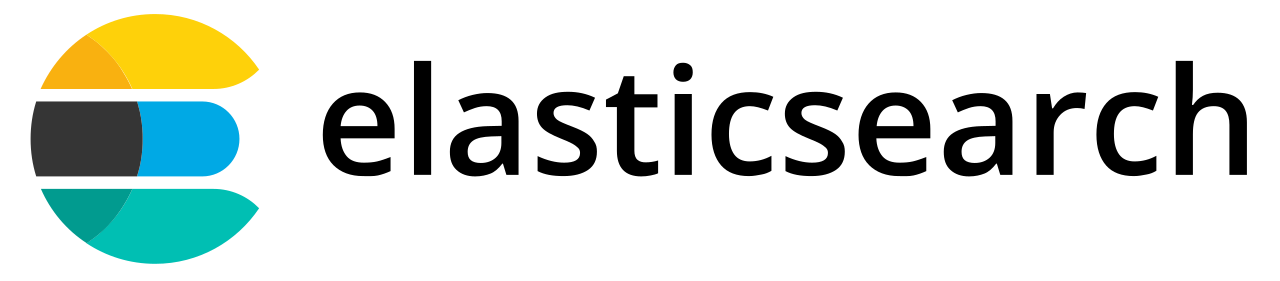
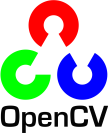
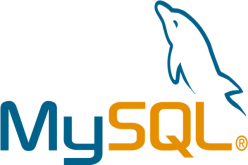
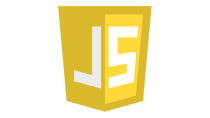
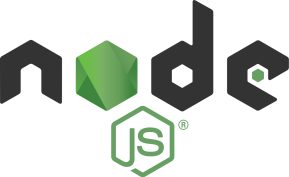
**Education**

Video based conference system for distant education, mobiles device based educational games for children, cloud based integrated learning platform for lectures, Course Management System, virtual chemistry lab etc.

**Healthcare**

The firm has been researching with doctors around the world to provide solutions in the healthcare domain. Major research has been done on digital stethoscope, Hospital staff management system, image analytics, video based attendance system that promote no touch etc.

**Technologies we use**



**NEAR REAL TIME ANALYTICS**

**MOBILE TECHNOLOGY**

**Generic/ Cloud**

**MACHINE LEARNING**

Our Clients

Use logos

State Bank of India

Johnson & Johnson

Dell EMC

Cyber Security Malaysia

Alchemy

Math 360

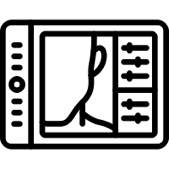
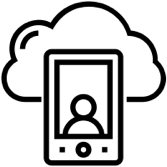
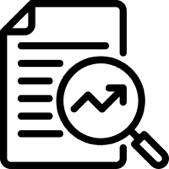
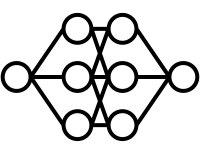
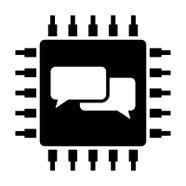
DGCIS

1. **About** **Us**
   1. **Company Introduction**

SkyBits Technologies Pvt Ltd. was incorporated in October 2013 by Mr. Debabrata Dutta and his friend Arup Banerjee to provide end to end mobility based solutions. In the very first year, SkyBits managed to get some top global clients across the world like Alchemy for which they developed a cloud based online training platform. It continued to provide different non data science solutions to various companies in USA till 2015, where the company decided to take a strategic call on focusing mostly on Artificial Intelligence and Machine Learning Solutions. SkyBits Technologies first data science project was done for Johnson & Johnson Company. Later the company created various technological frameworks (for textual based and image-video based) to provide solutions for companies. It started building its own products like Sky Detect, Social Media Feed Classification, Multilingual Chatbot , etc. A MoU with IIEST was signed at New Delhi in the presence of our Honorable President Mr. Pranab Mukherjee (at that time) during the Industry Academia Interactive at Rashtrapati Bhavan on 4th Nov, 2015. It has been recognized startup company in India by Department of Industrial Policy and Promotion, Ministry of Commerce & Industry, Govt. of India. It is NASSCOM Certified Member and also it has business tie-ups with IBM, Microsoft BizSpark and Amazon Web Service for their cloud service. It has been awarded as Best Partner in AI Solutions in Eastern India by ITPV. It focuses on developing reliable, innovative and economical technology solutions. Broadly the services include Enterprise, Cloud, Mobile and Web Solutions. The goal is to help businesses grow, transform and achieve their business objectives. SkyBits specializes in Image Processing, Artificial Intelligence, Machine Learning, Natural Language Processing, Statistical Analysis and Mobile Application Technologies.

We have had a successful association with companies like Directorate General of Commercial Intelligence & Statistics, DELL EMC, State Bank of India, Alchemy, and Johnson & Johnson etc. The USP of SkyBits Technologies is the approach where we have a unique combination of right people and processes involved in each project we undertake. The objective of SkyBits is to provide solutions which are of international standard and cost effective which adds great value for its clients.

* 1. Core Expertise



Deep Learning

Statistical Analysis

Mobile Computing

and eLearning

Natural Language

Processing

Image Processing



**Image Processing**

The **AI image processing** forms a digital system that performs operations on a digital image, primarily to extract specific useful information from it. In **Image processing using AI** input is an image, like a video frame or photograph and output may be image or characteristics associated with that image. **AI based Image Processing** device mainly works in the following manner

* it imports the image by a camera or CCTV
* manipulate it and analyze it to get deep insights from the Processed image

Unstructured rich media data like image, video is growing exponentially in recent time. Besides traditional manually handcrafted feature based techniques in image processing and computer vision, SkyBits is actively using **Deep Learning** based techniques **Convolution Neural Network (CNN)** for automatic feature extraction and fully connected neural nets for subsequent classification. Popular Python based tools Keras on top of **Theano** & **TensorFlow**, **OpenCV** libraries have been used extensively to achieve high accuracy in detection & prediction.

SkyBits is also conversant with Microsoft’s **Azure** Machine Learning APIs and **IBM Bluemix-Watson** APIs which are also used for certain use cases combining with other core development activities stitched together.

**Image Processing in artificial intelligence** is used in the following areas:

**Security Surveillance**

Image Processing using Artificial Intelligence in devices like security surveillance to detect face of person if the person is recognized then the person is allowed within the premise. When the person is recognized as a stranger then alert is generated in the system.

**Attendance Recording**

Digital Image Processing in Artificial Intelligence is used to record attendance in premises like office. CCTV or any camera detects a person if the person is the employee then his attendance is recorded. It can also record the in time and out time of the person.

**Face Detection**

In this method **image processing AI projects** are used to detect important facial features while else are ignored. **Artificial Intelligence Image Analysis** is used in banks for face detection of customers to check the authenticity of the customer.

**Signature Recognition**

The image of the signature of a given signer is scanned by a camera using **image analysis Artificial Intelligence** and it is verified with few sample images of the original signatures of the signer to decide whether the signature belongs to the given signer or not. This method is used because handwritten signatures are imprecise in nature as their corners are not always sharp, lines are not perfectly straight, and curves are not necessarily smooth and the fonts can be drawn in different sizes and orientation in contrast to handwriting which is often assumed to be written on a baseline in an upright position.

**SkyBits Technologies has built an in-house image processing product called Face-O-Detect. To know more about it, click here.**

**Natural Language Processing**

Natural Language Processing(NLP) is an automated way to understand and analyze natural human languages and extract information from such data by applying machine algorithms.

The data content can be text document,image,audio or video. Along with the growth of unstructured text data, NLP techniques have grown from statistical based techniques of TF, IDF, Bag of Words to more sophisticated techniques like text corpus,  vectorization, deep learning based named entity recognition.

NLP enables machine to derive meaning from human or natural language input. The world is now connected globally due to the advancement of technology and devices. This is resulted in the high volume of digital data across the world and has led to a number of challenges in analyzing the data including analyzing tons of data in form of image, audios and videos, identifying approximately 6500 languages and dialects followed across the globe, handling ambiguities while interpreting data and extracting information. This is where NLP proves useful. One of the main goal of NLP is to understand various languages,process them and extract information from them. In NLP full automation can easily achieved by using modern software,module and packages.

SkyBits is working extensively in this area for last five years and using advanced Python NLP platform **Spacy, Keras on top of Theano/TensorFlow**.

SkyBits deploys Named Entity Recognition (NER) techniques to train new domain specific entities for a variety of purposes. These text corpus is used to train a Recurrent Neural Network (LSTM) for classification.  Traditional Convolution Networks (CNNs) are also used for text classification with excellent accuracy.

**Natural Language processing in artificial intelligence** is used in the following areas:

**ChatBot**

Chatbot is a computer program that a person can engage with via text or voice command. It is an AI based messaging system that can be deployed on various social media pages or a company website and answer various generic questions of a customer. It is heavily being used in the B2C organization such as ecommerce websites, hospitals, government offices, telecom industry etc. SkyBits has developed one ChatBot platform called SkyChat that is already trained to handle various questions related to HR of any company, banking industry and the hospital industry.

**Email Classification**

Receiving email is very common for various big organizations. Infact some firms complain that they receive more than 6000 emails in an hour and it's next to impossible to analyze all these emails. Here NLP is used to analyze the contents of the email (that is a very common form of unstructured text data). Based on the analysis, the email is classified and sent to a right department for fast and effective communication. SkyBits has deployed an email classification solution to a major bank that has helped reduce cost of employing excessive manpower and improved the efficiency of responding back to customers in record time.

**Automated CV/Resume Classification**

NLP will match the contents of a resume with the job description provided by the HR department or the hiring committee. Automatically the system will analyze thousands of resumes and rank them from best to the worst when compared to the Job Description provided. This ensures that the HR department doesn't spend too much time looking through many resumes.

Comment and review analysis

NLP can read through various reviews and comments on an Ecommerce website or on a social media platform such as twitter or facebook. It can then classify is the comments are a positive or negative or a neutral comment. Using NLP we can also classify the comments in a particular section. Eg mobile phone reviews can be classified under categories such as battery life, display and camera. Accordingly using NLP we can see the sentiments of each comments that would help other customers do their proper research prior to purchasing the phone.

**SkyBits has built an inhouse Chatbot, CV classifier and a review analyser. To read more about them, click on the icons below.**

**Statistical Analysis**

Statistical analysis is a subject that concerns the collection, organization, analysis, interpretation and presentation of data. And today’s world Data is the major concern to business, that is how data can be useful to improve performance of a business, identifying opportunities and helps in decision making. **Statistical analysis of data** is the core function to understand this large structured descriptive data. In an effort to manage their data and predict the outcomes trends based on the information, many businesses rely on statistical analysis. **SkyBits** is here to help you out in analyzing and statistical modelling from large structured descriptive data. It is the science of collecting, exploring and presenting large unstructured data to discover or predict the future outcomes.

Statistical analysis of data consists of mainly two methods that are descriptive statistics and inferential statistics. Descriptive statistics draw the output from a sample using method of central tendency such as mean, median or standard deviation. While Inferential statistics deal with testing of hypothesis and deriving estimates. Statistical analysis helps the managers to make informed decisions in uncertain circumstances. When managers analyze statistical research in business, they determine how to proceed in areas including auditing, financial analysis and marketing research. Statistical analysis consists of mainly Data Pre-processing and Modelling & Analysis.

**Data Pre-processing** includes outlier detection using cubic splines and other techniques, imputation of data for missing and out of range data.  Statistical models like micro simulation implemented for time series prediction based on related input production data will be included in **Modelling & Analysis**. To make a perfect model regression analysis is done for the multiple variables among which one is dependent and rest cane be independent. For eg. The effect of a price of an object depends on various factors such as demand, competition, etc. Statistical analysis is not only limited to a business benefit, it’s used in a wide range of scientific and social research including biostatistics, computational biology, computational sociology, network biology, social science, sociology and social research.

The various steps of statistical analysis are as follows

* Nature of the data (Qualitative or Quantitative)
* Relate the data with the underlying population
* Create a model (Regression or Classification)
* Train the model (statistical testing)
* Validate the model

Advantages of Statistical analysis

* Assist in market research
* Product Development
* Company’s growth rate
* How to improve efficiency of the company

**Mobile Application**

* 1. Management Team

Will be sent later with pictures

* 1. **Mission and Vision**

**Mission**

Our mission is to enhance the business growth of our customers with creative Design and

Development to deliver market-defining high-quality solutions that create value and reliable

competitive advantage for our clients around the world.

We aim to deliver optimal solutions with quality and services at reasonable prices. For us

customer satisfaction is given top place. We are very friendly in our dealings to the customers

and it helps us retain existing clients and expand customer circle. We always try to improve

the quality of our products by exploring innovative ideas.

**Vision**

Our vision is to develop in a constant manner and grow as a major IT service provider to

become a leading performer, in providing quality Web and Software Development solutions in

the competitive global marketplace.

Our professional, flexible and integrated process reflects in what we do. We always guide our

customers to success. We have the ability to accelerate and quickly share the great work or

products of your organization or business.

* 1. Award

Pictures will be sent over an email

1. Products
   1. Face-O-Detect

Video: <https://www.youtube.com/watch?v=ZLAOs2UAwig&t=27s>

PPt Attached with email

Face-O-Detect is an automated object detection and recognition based monitoring system for

surveillance and attendance of people (employees, guests) in a premises. It uses modern

Artificial Intelligence based Image Processing and Computer Vision technologies like face

recognition, human body detection from live video streams of a connected camera (CCTV

camera, Webcam). The system can be deployed even on a single mobile device like Tablet with

no Internet connection or within an existing Wi-Fi network of premises (office, residence,

remote work site).

It is also used in attendance recording system where the image of the person is recorded if the

person is the employee of an office then attendance of that person is recorded. It records the in

time and out time of the employee and also the intermediate in and out time. The attendance is

recorded in the database and an attendance report (pdf) can be generated by the help of app

which can be shared by WhatsApp/email etc.

* 1. SkyChat

Video: <https://www.youtube.com/watch?v=W5MQLLRpOBA&t=1s>

Ppt sent in email

A chat-bot is a programme or piece of software that automatically respond to a message send

over a website chat-box, email, social-media, messaging app or text. A chatbot is a piece

of software that conducts a conversation via auditory or textual methods. Such programs are

often designed to convincingly simulate how a human would behave as a conversational

partner, although as of 2019, they are far short of being able to pass the Turing test. They are

typically used in dialog systems for various practical purposes including customer service or

information acquisition. Sky Chat is designed to work on popular chat platforms like Facebook

Messenger, Skype and also it can be integrated into the bank’s existing mobile app and net

banking.

* 1. DigiDoc

Video: <https://www.youtube.com/watch?v=EKs_Qit7Jrk>

* 1. SkyGist

Video: <https://www.youtube.com/watch?v=3hMhBsOgkiQ&t=1s>

The increase in E-commerce let to the increase in the websites that market and sell product.

And allow their users to review their products. For an online buyer or customer it is very

difficult to go through each reviews to make buying decision. SkyGIST is a application that

helps to summarize a large corpse of reviews of a product available on a social commodities

sites such as amazon, flipkart, snapdeal, etc. and on that aspect provide sentiment classification,

and finally apply the ranking.

* 1. Evidence Based Training
  2. Automated Credit Analyzer

1. Solutions
   1. Image and video based solutions
   2. Chatbot
   3. Sensor Based Solutions
   4. Unstructured text-based solution
   5. Drone Based Solution
   6. Mobile App Development
   7. IT and Information Security
2. Technology framework
3. Customer Case Studies
4. Resources
   1. Updates
   2. Blog
   3. Career
   4. Gallery
5. Innovation, Research and Development