# SIDDHARTH BASALE

## AI/ ML Developer

Targeting **Machine Learning Engineer Intern** roles with an organization of high repute with a scope of improving knowledge and further career growth.

## Contact


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Siddharth Basale


## Education

- **Bachelor of Engineering (B.E.) Computer Engineering**
  Government College of Engineering and Research, Avasari, Pune;

## Technical Skills

- **Programming Languages:**
  Python, R language, Java, C++
- **Frameworks:**
  TensorFlow, Keras, Pytorch, scikit-learn, FastAPI, Flask, Django, React, Node.js

## Core Competencies

Image Processing and Computer Vision

Machine Learning and Deep Learning

Neural Networks (CNNs, RCNNs, YOLO)

Generative A.I

Data Structures And Algorithms

Django

Artificial Neural Network

Docker

## SKILLS

- **Programming Languages**: Java, Python, C++, R
- **Machine Learning Techniques:** Regression, Classification, Random Forest, Neural Networks, Hierarchical Models
- **Image Processing:** Object Detection, Segmentation (YOLO, RCNN), Image Preprocessing, Feature Extraction
- **Computer Vision Tasks:** Object Detection, OCR (Optical Character Recognition), Bounding Box Annotations
- **Model Deployment:** Flask, FastAPI, Streamlit, Docker

## POSITION OF RESPONSIBILITY

**Intern at Aii venture** | 30 N Gould St Ste R, Sheridan, WY 82801 USA

*(2023- Present)*

**AI-Powered Chess Move Analyzer**

- Developed ChessAnalyzer, an AI-driven tool that analyzes chessboard positions in real-time and suggests the best possible move using YOLOv8 and Stockfish.
- Engineered a robust **YOLOv8-based** chessboard and piece detection system, enabling precise identification of all pieces and their positions from an uploaded or captured image.
- Integrated **Stockfish**, a powerful chess engine, to compute and recommend the strongest move based on the detected board state.
- Utilized **OpenCV** for image processing and perspective correction, ensuring accurate board recognition.
- Designed an interactive and user-friendly UI using **Streamlit**, providing seamless real-time chess analysis for players of all levels.

**AI-Powered Interview Analysis System**

- Developed a custom meeting application to enhance interview processes with real-time and post-interview analytics.
- Engineered a low-latency (under 2 seconds) live captioning system for accurate and seamless transcription
- Implemented AI-driven question generation to assist interviewers with dynamic and context-aware suggestions.
- Designed post-analysis features, including confidence assessment and gaze tracking, to detect potential cheating and improve evaluation accuracy.
- Leveraged advanced AI and NLP techniques to ensure a data-driven, fair, and efficient hiring process.

## Academic Projects

**Book Spine Detection using YOLOv8**

- Developed a model to detect and label book spines from images using the YOLOv8 framework, providing users with the ability to upload or capture a photo and receive bounding boxes along with the count of books.
- Deployed the model on Hugging Face for real-time use and shared the complete project code on GitHub.
- Utilized advanced computer vision techniques and deep learning for precise bounding box generation and real-time detection.
- Hugging Face
- Github Repository

**Myntra Product Recommendation System**

- Designed and developed a robust recommendation system leveraging a Myntra dataset to provide tailored product suggestions based on user queries.
- Leveraged TF-IDF and cosine similarity for accurate product matching based on user input.
- The system generates dynamic recommendations with product details, including name, color, description, price, and links.
- Incorporated advanced NLP preprocessing techniques, such as stopword removal and tokenization with NLTK, to enhance text processing accuracy.
- Built an interactive UI using Streamlit, enabling users to search for products effortlessly and receive detailed insights, including direct product links for seamless navigation.
- Github Repository
- Streamlit

**AI-Powered Kung Fu Master using A3C Model**

- Developed an intelligent agent that autonomously plays and conquers the classic Kung Fu Master game using the Asynchronous Advantage Actor-Critic (A3C) model.
- The AI efficiently manages multiple environments simultaneously, learning and adapting autonomously to achieve high scores without human intervention.
- Implemented using Python and PyTorch, the model navigates the game, making strategic decisions to enhance performance.
- Achieved a score of 2200 points in the game, demonstrating the effectiveness of reinforcement learning.
- Github Repository

**Ultimate AI Chatbot using Google's Gemini Pro Model**

- .Created an advanced chatbot with Gemini Pro for speech recognition and NLP.
- Integrated Wikipedia API and text-to-image conversion for enhanced functionality.