

# ARNOB BARUA



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📍 Hanjiang, Yangzhou, Jiangsu, China.

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## Personal Profile

A motivated and analytical Computer Science student at Yangzhou University with a strong interest in **Computer Vision**, **Pattern Recognition** and **AI application**. Experienced in implementing deep learning models, including Convolutional Neural Networks (CNNs), and passionate about developing intelligent systems that connect visual data with real-world applications. Seeking to pursue a Master's degree in Artificial Intelligence and Machine Learning to deepen research and contribute to impactful technological innovation.

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## Education

**Yangzhou University** : BSc in Software Engineering

Sep 2022 – Jul 2026

- **GPA** : 3.70 (up to 6<sup>th</sup> semester)
- **Academic Ranking** : Top 4 in the cohort
- **Yearly Performance** :
  - Year 3 : 90% average
  - Year 2 : 80% average
  - Year 1 : 87% average

Relevant Courses:

*Data Analysis and Application(ongoing), Artificial Intelligence Project Practice(ongoing), Advanced Mathematics A(Calculus - part1 & part2), Linear Algebra, Data Structure and Algorithms, Probability and Statistics, Python Programming*

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## Skills

### Programming Languages

C / C++ , Python (Advanced) , SQL , JavaScript , HTML , CSS

### Tools & Technologies

TensorFlow , Keras , Scikit-learn , NumPy , Pandas , Matplotlib , Seaborn , Git , Docker , Streamlit , Node.js , OpenCV, LabelMe , image preprocessing & augmentation tools

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## Competitions & Certificates

- **Kaggle** : Initial contributor and actively participating in competitions, gaining practical experience in machine learning and data analysis.  
**Link** : <https://www.kaggle.com/arbbarua>
- **Codeforces** : Earned the Specialist rating in weekly contests and solved over 800+ problems, demonstrating strong problem-solving and algorithmic skills.  
**Link** : [https://codeforces.com/profile/ARB\\_\\_01](https://codeforces.com/profile/ARB__01) (For Problem Solving)  
<https://codeforces.com/profile/bshkort> (For Contest)
- **Kaggle Machine Learning Intermediate Course** : Completed with Excellence, strengthening practical ML and data science expertise.

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## Project Experience

### Plant Disease Classification with CNN

- Developed an end-to-end image classification pipeline using the PlantVillage dataset, including data preprocessing, class balancing, augmentation, and training a Keras CNN model through a robust tf.data pipeline, achieving 89.31% accuracy across 38 plant disease classes.

**Technologies:** Python, TensorFlow/Keras, tf.data, Pillow, scikit-learn, Matplotlib, NumPy, Streamlit, Dockerfile

**Link :** [https://github.com/Barua02/Plant\\_Disease\\_Classification\\_with\\_CNN](https://github.com/Barua02/Plant_Disease_Classification_with_CNN)

### Content-Based Music Recommendation System

- Developed a scalable content-based music recommendation engine analyzing 10,000+ song lyrics using NLP techniques, including text preprocessing (tokenization, cleaning), TF-IDF vectorization, and Nearest Neighbors with cosine similarity, and deployed it as an interactive, modular, and reproducible Streamlit web application for real-time recommendations.

**Technologies:** Python, Streamlit, scikit-learn, NLP, NLTK, Pandas

**Link :** <https://github.com/Barua02/Content-Based-Music-Recommendation-System>

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## Reference

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