

AMAL GAFOOR P K

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GitHub: github.com/amal-gafoor



EDUCATION

National Institute of Technology Calicut

B.Tech in Chemical Engineering | CGPA: 6.67 | 2022 – 2026

UHHSS Chaliyam – Class 12 | 96.5% | 2021

GGVHSS Feroke – Class 10 | 95% | 2019

INTERNSHIP EXPERIENCE

- Industrial Intern – BPCL Kochi Refinery (Manufacturing 1) | 2025**

Gained industrial exposure at BPCL Kochi Refinery by Analyzing process flow diagram and observing operations of heat exchangers, pumps, compressors, and heaters while adhering to plant safety protocols.

- Data Scientist Trainee – TECHOLAS TECHNOLOGIES PVT LTD.**

May 2024 – July 2024

Trained in Python, machine learning workflows, and data preprocessing.

PROJECTS

- DIGITAL TWIN INTEGRATION OF A CIRCULAR FLUIDISED BED GASIFIER – CYCLONE SEPARATOR SYSTEM (June'25 - Current)**

Designing and fabricating a sensor-integrated circular fluidized bed gasifier system to generate energy from sawdust. The setup includes a cyclone separator with robust airflow and fuel flow. Key process parameters—temperature, humidity, and gas composition—are monitored in real-time and fed into a **Digital Twin interface for system visualization**. Additionally, I have integrated a **Retrieval-Augmented Generation (RAG) agent** that serves as an interactive project expert. This AI acts as a conversational assistant, capable of answering queries about the project.

- License Plate Detection using YOLOv8 + EASYOCR**

Fine-tuned YOLOv8 detection model for license plate using a custom dataset of 300+ samples and achieved 92% accuracy in IoU validation.

- Material Hardness Prediction (ML Project)**

Built regression model using Scikit-learn and Pandas to predict material hardness.

TECHNICAL SKILLS

Languages: Python, SQL

POSITION OF RESPONSIBILITIES

- HEAD OF ORGANIZING COMMITTEE, TATHVA 24.**

Led the organizing committee of Tathva '24, **managing** a team of volunteers and coordinating large-scale technical fest operations, logistics, and stakeholder engagement.

- PROGRAM COMMITTEE, RAGAM 24 - JUNIOR EXECUTIVE.**

Assisted in planning and executing cultural fest events as part of the Program Committee, ensuring smooth scheduling, coordination, and on-ground management.

- PUBLIC RELATION COMMITTEE, TATHAVA 23 - JUNIOR EXECUTIVE.**

EXTRA-CURRICULARS

- Model – MIRQUI Fashion Show (NITC)