

# Bhoomi Jain

Data Science | Bhopal, MP, India | +91 9589148357 | [bhoomi.jain1212@gmail.com](mailto:bhoomi.jain1212@gmail.com) | [linkedin.com/in/bhoomi-jain-1babb42a3](https://linkedin.com/in/bhoomi-jain-1babb42a3) | [github.com/bhoomi9589](https://github.com/bhoomi9589)

## Professional Summary

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Data Scientist and full-stack developer with hands-on experience building end-to-end applications leveraging computer vision, machine learning, and cloud technologies (GCP, AWS). Passionate about creating impactful, data-driven solutions, from real-time gesture control systems to interactive nutrition trackers.

## Skills

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**Languages:** Python · Javascript · SQL · HTML/CSS

**AI & ML Frameworks:** Scikit-Learn · Pandas · NumPy · OpenCV · Dlib · langchain · SciPy

**Backend:** Flask · Flask-CORS · REST APIs · Elasticsearch · Asynchronous Programming

**Frontend & Visualization:** React.js · Chart.js · Axios · Streamlit · Matplotlib · Power BI

**Cloud & Tools:** Google Cloud Platform (GCP) · AWS · Git · PyAutoGUI · Docker

## Projects

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### Real-Time Eye Movement Control System

- Addressed accessibility challenges by engineering a computer vision system that translates real-time eye and head movements into hands-free system commands using Python, OpenCV, and Dlib.
- Implemented a robust blink detection algorithm based on the Eye Aspect Ratio (EAR) to trigger system sleep functionality with high accuracy.
- Developed a gaze-tracking module to control document scrolling and application switching, streaming the low-latency video feed to a web interface via a Flask server.

### Calorie & Nutrition Tracker

- Designed and built a full-stack web application to simplify nutritional tracking, featuring a React.js frontend for a dynamic user experience and a Python/Flask backend for data processing.
- Integrated the Spoonacular REST API to fetch and display real-time nutritional data for thousands of food items, enabling users to search and log meals dynamically.
- Implemented interactive data visualization with Chart.js, providing users with clear insights into their macronutrient distributions and calorie summaries.

### Real-Time Multimodal AI Agent with Gemini Live API

- Engineered a full-stack conversational AI application to explore natural human-computer interaction, enabling real-time, multimodal (audio/video) conversations with the Google Gemini Live API.
- Reduced interaction latency by over 30% by implementing asyncio and threading for concurrent processing of I/O streams in a stateful Flask backend.

## Responsible Consumption & Production AI Tool

- Developed an AI-powered tool using Google Gemini and LangChain to address the challenge of sustainable consumer choices by assessing product sustainability from user input.
- Delivered actionable insights to users by designing a system to analyze product data and suggest eco-friendly alternatives, achieving 90% accuracy in its recommendations.

## Lung Cancer Prediction System

- To aid in early-stage risk assessment, developed and trained a logistic regression model that achieved a 94% predictive accuracy in identifying lung cancer risk from patient data.
- Engineered a multilingual, user-friendly interface with Flask to ensure the diagnostic tool was accessible to a diverse, global audience.

## Certifications

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### Introduction to Google Cloud Platform

2025

Simplilearn

Gained foundational knowledge of core Google Cloud services, including compute, storage, networking, and security.

### AWS Cloud Practitioner Essential

2025

Simplilearn / AWS

Completed comprehensive training on core AWS services, cloud architecture principles, security, and pricing models.

### Generative AI Certification

IBM Skills Build

Python for Data Science | Technology Developers Basics of Python Programming | Technology Developers