

# SARTHAK CHAWATHE

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## EDUCATION

### Master of Science, Data Science

Indiana University Bloomington, Bloomington, Indiana

Aug 2022 – May 2024

GPA: 3.68/4.00

### Bachelor of Engineering, Computer Engineering

K.J. Somaiya Institute of Technology, Mumbai, India

Aug 2015 – May 2019

GPA: 3.7/4.00

## TECHNICAL SKILLS

**Programming and Development:** Python (NumPy, Pandas, Scikit-learn, NLTK, Matplotlib, TensorFlow, Keras, PyTorch, Pyspark), R, Java, C, HTML, CSS, JavaScript, Git, GitHub, JIRA, Confluence, Agile.

**Data Analysis and Machine Learning:** Hypothesis Testing, A/B Testing, Statistics, Regression, Classification, Clustering, Neural Networks, NLP, Computer Vision (OpenCV).

**Big Data and Cloud Computing:** Apache Spark, GCP, Dataproc, IBM Cloud, AWS, Jetstream2, Docker.

**Data Management and Data Visualization:** SQL, MySQL, BigQuery, PostgreSQL, DB2, NoSQL (MongoDB), ETL, Tableau, Microsoft Power BI, Seaborn, Jupyter Notebook, Google Looker Studio.

## EXPERIENCE

### Founding Machine Learning Engineer & Data Analyst | OneChimera Incorporated

May 2024 – Present

AI Engineering, Diffusion Models.

Remote, California

- Led a team of **2 UCLA interns, fine-tuned AI models** for architects, including image generation, 3D model creation, and chatbot development, leveraging techniques such as **prompt engineering** and domain-specific customization.
- Implemented advanced web scraping methods to extract and **process over 10,000 images** of houses, ensuring high-quality datasets for training and analysis.
- Researched cutting-edge frameworks and tools like LangChain to build scalable data pipelines, automate workflows, and integrate AI solutions, **enhancing operational efficiency by 40%** and improving project turnaround times.

### Graduate Teaching Assistant | Indiana University Bloomington

Aug 2023 – May 2024

Problem-Solving, Data Structures and ML Algorithms.

Bloomington, Indiana

- Orchestrated a team of 3 teaching assistants, collaborating seamlessly to provide educational support to a cohort of **50+ students**, resulting in significant improvements in learning outcomes and heightened student satisfaction.
- Graded and consulted detailed feedback on over 20 assignments, ensuring timely and constructive comments that contributed to a **30% reduction in student errors** and improved overall assignment quality.

### Data Analyst | HiCounselor (Apprenticeship)

May 2023 – Aug 2023

Data Processing, AI/ML, Data Visualization.

Remote, California

- Applied AI, computer science, and business analytics to guide a cross-functional team in analyzing real-world data using Python and MySQL & delivered a report with over **10 actionable insights** using a data-driven approach.
- Collaborated seamlessly with cross-functional team members to refine and pre-process datasets, emphasizing data integrity, and attained a noteworthy **15% enhancement** in the reliability of analytical outcomes.

### Assistant Systems Engineer | Tata Consultancy Services

Jul 2019 – Dec 2020

Relational Databases, Scrum, Business Intelligence, Power BI.

Mumbai, India

- Optimized SQL queries** by **approximately 30%** to enhance query performance and efficiency.
- Created and managed **interactive dashboards** for stakeholders, enabling streamlined data analysis and informed decision-making, resulting in **20% higher stakeholder satisfaction**.

## PROJECTS

### OK-VQA Using Multimodal RAG | Python, Deep Learning, NLP, LLMs, Generative AI.

- Spearheaded the implementation of a Retrieval Augmented Generation approach using **BLIP-2** for Outside Knowledge Visual Question Answering (OK-VQA), minimizing the necessity for significant model retraining.
- Leveraged **CLIP Text Encoder**, **Hugging Face AutoTokenizer**, & built **FAISS** index for efficient encoding and retrieval.
- Incorporated external Wiki knowledge dynamically during inference, resulting in a **10% increase in zero-shot** accuracy.

### University Recommendation System | Python, EDA, Web Scraping, Data Mining, Predictive Analytics.

- Directed a team of 3 in designing and building an **advanced recommendation system**; bagged a 50% reduction in university research time and enhanced student engagement and enrollment by 25%.
- Crafted a machine learning algorithm using **Selenium** and **Weighted KNN** to analyze student data and recommend suitable universities based on the student's academic background, test scores, and other preferences.
- Created a user-friendly interface for the recommendation system using **Bootstrap** and **HTML** for Frontend and **Flask** for Backend, resulting in a 30% increase in user engagement.

## AWARDS / CERTIFICATIONS

**Hackathon:** Secured 2nd runner-up spot for building standalone PDF splitting app in the Luddy Hackathon among 50+ teams.

**Certifications:** Google Data Analytics, IBM Data Science, Microsoft Technology Associate: HTML5 Application Development Fundamentals, Programming with Python, Introduction to Modern Application Development, HackerRank SQL Basic.