

SARTHAK CHAWATHE

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EDUCATION

Indiana University Bloomington

Master of Science in Data Science, GPA: 3.68/4.00

Aug 2022 – May 2024

Bloomington, Indiana

K.J. Somaiya Institute of Technology

Bachelor of Engineering in Computer Engineering, GPA: 7.95/10.00

Aug 2015 – May 2019

Mumbai, India

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 | AI Engineering, Diffusion Models.

May 2024 – Present

OneChimera Incorporated

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 delivering significant business value.

Graduate Teaching Assistant | Problem-Solving, Data Structures and ML Algorithms.

Aug 2023 – May 2024

Indiana University Bloomington

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 | Data Processing, AI/ML, Data Visualization.

May 2023 – Aug 2023

HiCounselor (Apprenticeship)

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 | Relational Databases, Scrum, Business Intelligence, Power BI.

Jul 2019 – Dec 2020

Tata Consultancy Services

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, 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.