DAKSHA LADIA

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SKILLS & CERTIFICATIONS

Technical skills: Java, Python, C#, C++, C, Machine Learning, Data Structures & Algorithms, PyTorch, R, Google Vision, JavaScript, Tensorflow, Agile Methodologies (CI/CD), Python libraries (Pandas, Numpy, Scikit), Object Oriented Programming, Apache Spark, Selenium, Information Retrieval, Natural Language Processing, Computer Vision, AWS, A/B Testing, Hugging Face, PySpark, Unit Testing, End-to-End Testing, PySpark, Apache Kafka, Docker, Large Language Models
Data Management & Analytics: SQL, MySQL, MongoDB, PostgreSQL, Git, Microsoft Office, Github, Database Management
Certification: Machine Learning Specialization by DeepLearning.AI & Stanford University

WORK EXPERIENCE

Microsoft   **Software Engineer**   **June 2020 - July 2024**

- Optimized selective sampling of Bing Ads' top advertiser listings, using **C# and Python programming languages** and **object-oriented programming practices,** to optimize function calls and integrate new features in the ad simulation result calculations, improving runtime by 15%, cost savings of 9%, reducing data simulations by 5% and enhancing the efficiency of ad ranking system by 14%
- Engineered a **Regression Tester Tool**, going through **Software Development Life Cycle (SDLC)** using **C#, SQL, XML,** and **Python** languages from scratch to automate the validation of the impact of new integrations or features against current or alternative code branches efficiently, **reducing manual effort and saving developer hours by 90%**
- Enhanced accuracy of ad performance analysis by improving the **Machine Learning model** used in ad-click prediction analysis by developing new features addition and hyperparameter tunings, resulting in a **2% and 4% AUC gain** in international and US markets, respectively
- Executed **Strategic Global Market Optimizations** through comprehensive hyperparameter tuning using a **Python** script, overcoming challenges such as unanticipated market-specific behaviors, increasing user engagement by 3.5% in SEA, and 5% revenue gains in APAC and LATAM

FarmGuide(acquired by DeHaat)   **Data Science Intern**   **Jan - May 2020**

- Developed and deployed a Decision Trees **Machine Learning model** in **Python** for crop identification and health monitoring, achieving 96% accuracy in recommending high-yield crops based on farm features and geo-locations
- Worked on building a **forecasting algorithm** using **ARIMA** and **Prophet** to predict the best suitable crop for a farm considering the environmental specs to maximize revenue, helped user gain financial assistance with revenue assurance

Microsoft   **Software Engineering Intern**   **May - July 2019**

- Worked on Detecting Seasonality(like Christmas, Easter, and others) and Anomaly caused(during these specific holiday seasons) in MarketPlace for advertiser campaigns of various categories for all the ads irrespective of whether they get or not displayed on the Bing search engine page for a user query
- Focused on analyzing the auction and bid pricing for the ads for auto bidding procedure, where an algorithm suggests the bid price depending on the type of return the advertiser wants, during these seasonality periods
- Worked on Market Tuning Concepts in Market Place, which resolves around working on various KPIs and metrics and how their combinational setting can be improved to accommodate the ads during the seasonality period and the rest of the year

CodeYoung   **Mentor**   **February - June 2020**

- Taught Python programming language and web development to students in multiple batches ranging from class 5 to class 12. Have taught students globally throughout my tenure
- As a mentor, I guided students on the practical applications of their courses
- Mentored one of my students and gave a letter of recommendation for the Yale Summer School program to which he got in

Cygnet Infotech   **Software Developer Intern**   **May - June 2018**

- Built an Employee Onboarding Web Application using .NET Framework in MVC Configuration
- Used Advanced Encryption Standard, a cryptographic method to ensure tight security of the application, ensuring the personal details and documents uploaded using the application were safe and secure

PROJECTS

Automation & Handling Unstructured Data | Selenium, GPT, Python, MongoDB |
github.com/dakshaladia/UnstructedDataToStructuredData
- Built a pipeline that uses **GPT-4o** models and **Google Vision** API to classify different healthcare documents, performed OCR utilizing a combination of **Large Language models** like **GPT** and **Claude,** and converted unstructured text to structured text. Automation here reduces the time to read and parse these docs by 99% manually

Complex Query Synthesis for Enhanced Information Retrieval | NLP, LLMs |
github.com/dakshaladia/QueryGenerationAndRetrieval
- Worked on building a new pipeline for enhanced Document Retrieval using document segmentation, pseudo query generation, fine-tuning large language models, and semantic matching to mitigate issues countered by short, ambiguous queries through semantic matching methods, gaining 4% precision improvement over BM25

Real-Time Streaming & Data Prediction & Analysis | Apache Kafka, Python, Machine Learning, AWS, Docker |
github.com/dakshaladia/RealTimeStreamingAndPrediction
- Real-time streaming of trending GitHub repositories trending repository prediction using neural network models

Healthcare Portal | ReactJS, Ant-d, Python, FastAPI, Javascript, Cypress | github.com/dakshaladia/HealthCarePortal
- Built a one-stop healthcare portal, where both doctors and patients can schedule their availabilities and appointments respectively, make payments for the scheduled appointments, embed maps for navigation, and secure the platform using multifactor authentication during login and register

Question-Answering Bot | LangChain, VectorDB, Python, OpenAI | github.com/dakshaladia/QuestionAnsweringBot
- Engineered a Question-Answering bot API using advanced large language models to provide precise responses to document-based queries, thereby automating and streamlining information retrieval processes

Food Delivery App | MongoDB, Express.JS, ReactJS, NodeJS, Tailwind
- Built a Food Delivery App from scratch using MERN stack, creating both the consumer and client sides as a personal project to get hands-on learning on different tech stacks

Robowars | Python, Robotics, IoT
- Secured the gold prize at Microsoft Garage Hackathon '23 by developing a multi-functional robot capable of exploring unknown paths using Dijkstra's algorithm, following the shortest route, and executing pick-and-drop tasks

Google Assistant Chatbot | https://sites.google.com/view/travel-grants-scholar/home
- Built and deployed a chatbot on Google Assistant using DialogFlow in English and Hindi. The chatbot named Google Travel Grants Scholarship answers queries and gives details on how to apply for this scholarship for selected conferences in technology and business. Developed a website for its details

Suno Na | Python
- Built a prototype of a real-time language translator - SunoNa, in the Microsoft Garage Hackathon 2022, which can find its application in conferences worldwide and talk to people over call

Parallel Programming
- Implemented an Algorithm based on a Research Paper using CUDA and OpenMPI during undergraduate college

Aqua | Java | github.com/dakshaladia/Aqua
- Built an Android Application: Aqua, in the CodeFunDo Hackathon organized by Microsoft. Aqua is a simple Android application created for people registering for different educational courses to estimate the course price and manage the course schedules for individual

Co-Founder @ Penning Down Success | Product Development | youtube.com/c/PenningDownSuccess
- Ran a video talk show platform where we hosted 20+ accomplished personalities in unconventional fields. The video podcast was aired and had 50K+ views on YouTube, Instagram, and all major social media platforms

HONORS & AWARDS
- Received the Innovation & Excellence Awards in FY20-FY21 for a pipeline migration project at Microsoft
- Mentor at HackHarvard, Harvard's hackathon for undergraduate students, in 2024
- Participant in the MIT Policy Hackathon 2024, built interpretable solution to analyze error rate in SpO2 measurements
- Mentored at the "She Hacks DTU Hackathon - Delhi's Largest All-Women Hackathon" in 2021
- Stood in the top 1% of students in Higher Secondary Exams and received the Inspire Scholarship from the Indian government

EDUCATION

University of Massachusetts Amherst, United States**:** Masters of Science in Computer Science **May 2026**

Relevant Coursework: Information Retrieval, Theory and Practice of Software Engineering, Systems for Data Science, Machine Learning, Advanced Natural Language Processing

Manipal Institute of Technology, India**:** Bachelor of Technology in Computer Science & Engineering **June 2020**