

# AAYUSH KAMATH

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## EDUCATION

- **Columbia University, New York, NY** Jan 2022 - May 2023
  - *M.S. in Computer Science*
- **Sardar Patel Institute of Technology, Mumbai, India** Aug 2017 - May 2021
  - *B.Tech. in Information Technology*

## SKILLS

**Web Development Frameworks:** React.js, MySQL, PostgreSQL, NoSQL, Django, Node.js, Javascript.  
**Core AI/ML skills:** Generative AI, Deep Learning, Natural Language Processing, Computer Vision.  
**Programming and Frameworks:** Python, R, TensorFlow, PyTorch, Scikit-Learn, Keras, OpenCV.  
**MLOps & Cloud:** Azure ML, Azure AI Foundry, AWS.  
**Data Science & Analytics:** Pandas, NumPy, SciPy, SQL, Tableau.

## WORK EXPERIENCE

- **Tech Rakers Inc | AI/ML Consultant** Aug 2024 - Present
  - Worked for the **Washington State Department of Health** for the development of AI proof of concepts for multiple organizational use cases in the public health domain from Sep 2024 to Mar 2025 as a contractor.
  - Researched **Natural Language Processing techniques and Bayesian statistical Modeling for anomaly detection** in emergency visit records identifying potential patterns for disease outbreaks.
  - Implemented **word embedding models** to analyze and track the semantic relationships of chief complaints over time, identifying disease outbreaks and health trends, in retrospect.
  - Designed comprehensive user interaction flows and use cases for an **internal chatbot focused on credentialing and licensing of medical practitioners** to cut down Customer Support call times by an hour.
  - Developed a cross-platform implementation roadmap for deploying the chatbot using Azure AI services, including alternative architecture considerations for AWS.
- **Remotasks (Scale AI) | Freelance Software Engineer - AI Trainer** Feb 2024 - July 2024
  - Evaluated Large Language Models to ensure they meet quality standards by maintaining code consistency, formatting, and structure of prompts and responses, **achieving a consistency score of at least 90% across all tasks.**
  - Trained LLMs by **Reinforcement through Human Feedback (RLHF)** to generate accurate Python snippets and SQL queries to answer business-oriented data prompts by refining model outputs and reinforcing correct logic, structure, and syntax in alignment with dataset requirements.
- **ICPC Foundation | Software Engineer Intern** Aug 2023 - July 2024
  - Engaged in enhancing data structures and algorithms proficiency through solving competitive coding problems on Leetcode and Codeforces with a 1600+ Rating in Contests.
- **Aptitude (Columbia Business School) | Software Engineer Intern** May 2022 - Aug 2022
  - Streamlined the tenant background check process by utilizing React to develop an interactive front-end user interface for a Rental Application Portal, enhancing the overall verification workflow.
  - Facilitated secure and rapid validation of prospective tenants' banking credentials by incorporating **Plaid API with Python and Django**, **significantly bypassing manual processing time of a few days.**

## PROJECTS

- **Investment Portfolio Management using Machine Learning | [Github Repo](#)** Feb 2023 – May 2023
  - Crafted an interactive dashboard **utilizing React for building three major data visualization components**, with Django REST for backend API integration, facilitating machine learning and deep learning models' insights.
  - Deployed and fine-tuned LSTM and regression predictive models for forecasting S&P 500 stock prices by training on a **decade's worth of large-scale time series data.**
  - Strategized stock management for long-term investment portfolios Mean-Variance Optimization, which facilitated the development of sector-specific portfolios. This approach minimized risk while achieving a **20% annual return on investment.**
- **Coffee Factory | Web App for Coffee shops | [Github Repo](#)** Feb 2022 - May 2022
  - Established a comprehensive **review aggregator ecosystem** comprising hundreds of coffee shops with features such as User Profile, User Reviews, Search, Filter by Categories, and Shop details along with data pipeline for frequent updates.
  - Engineered a **scalable web application with React**, hosted on AWS Amplify, ensuring efficient data handling with a back-end supported by S3 Bucket and DynamoDB as database for real-time analytics.
- **Conversational AI project using NLP and AWS Lambda | [Github Repo](#)** Jan 2022 - Feb 2022
  - Engineered a comprehensive **AWS-based full stack web application** for a dining concierge chatbot to recommend multiple restaurants customized to user preferences for cuisine, time, and location.
  - Designed a **conversational Amazon Lex bot** for dynamic restaurant recommendations, integrating user intents.
  - Leveraged a suite of AWS services including Amazon Lex, Elasticsearch, DynamoDB, SQS, SNS, and AWS Lambda, along with Yelp API, to build a robust and responsive solution.

## CERTIFICATIONS

- **Introduction to Probability and Data with R | 🌟 [Certificate](#)** Sep 2020 - Oct 2020
  - Acquired foundational skills in R programming, focusing on statistics, probability, data modeling and exploratory data analysis through a comprehensive course offered by Duke University.
- **IBM Data Science Specialization | 🌟 [Certificate](#)** Apr 2020 - July 2020
  - Pursued and completed a 9-course specialization, encompassing Data Analysis with Python, Machine Learning with Python, Data Visualization with Python, and culminating in an [Applied Data Science Capstone Project.](#)