Ayush Uday Desai

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Education

Northeastern University Expected Dec 2024
Masters of Science, Computer Science (GPA: 3.81 / 4.0) *Boston, MA, USA*
- **Relevant Coursework:** Program Design Paradigm, Web Development, Algorithms, Machine Learning, Database Management

University of Mumbai May 2022
Bachelors of Engineering, Information Technology (GPA: 9.1 / 10) *Mumbai, MH, India*
- **Relevant Coursework:** Data Structures and Algorithms, Cloud Computing, Object Oriented Design, Information Security, Database Management Systems, Big Data Processing and Analytics, Distributed Systems

Skills

Languages: Java, C++, Python, JavaScript
Web Technologies: HTML, CSS, React, NodeJS, Angular
Database: MySQL, Microsoft SQL Server, NoSQL (MongoDB), PostgreSQL
Cloud & Ops: CI/CD, Docker, Kubernetes, Jenkins, Microsoft Azure, Amazon Web Services (AWS)
Development Tools: Git, GitHub, Postman, Jupyter
Framework: TensorFlow, Keras, PyTorch, Scikit-Learn, NLTK
Soft Skills: Integrity, Articulation, Teamwork, Problem Solving, Communication, Self-Starter

Experience

Northeastern University May 2023 - Present
Lead Teaching Assistant *Boston, MA, USA*
- As a Lead Teaching Assistant for CS 5200 (Database Management Systems), mentored 100+ students, ensuring a high course completion rate through engaging instructions and personalized support.

Papa Don't Preach by Shubhika January 2022 - December 2022
Software Engineer *Mumbai, MH, India*
- Designed and implemented scalable software solutions for a high-traffic fashion e-commerce platform, utilizing **Java** and **Agile methodologies** to optimize system performance, resulting in a 30% reduction in latency and improved customer satisfaction.
- Engineered distributed backend systems on **AWS**, leveraging **PostgreSQL** for robust data management, effectively processing large-scale transactions while ensuring system reliability with an uptime of 93.2%.
- Enhanced the software delivery pipeline by integrating automated testing and **CI/CD** of **Jenkins** processing with **GitHub**, significantly reducing deployment time and production bugs by 27%, thereby improving overall development efficiency.
- Communicated with cross-functional teams, including **product management** and **UI/UX**, to design and develop **RESTful APIs** that facilitated seamless third-party integrations, ultimately enriching the user experience across multiple platforms.

Projects

Text Translation | Link | *Python, Transformer, LSTM Architecture* January 2024 - May 2024
- Collaborated on a team project to develop an efficient, high-quality text translation system using **natural language processing** architectures to promote global communication and cultural exchange.
- Deployed and created LSTM and Transformer architecture from scratch to translate from English to German and French to English respectively, achieving an accuracy of **91%** for both algorithms.

ImageWizard | Link | *Java, Image Manipulation/Image Processing* September 2023 - December 2023
- Developed an Image Processing app adhering to **Model View Controller (MVC) Design pattern**, with **Swing** for GUI, offering interactive text UI, batch processing, and various image manipulations like color adjustments, flipping, blur, and compression.
- Employed Command Callback and **Command Design Patterns**, adhered to **SOLID principles**, and utilized JUnit for testing. Leveraged key Object Oriented Programming concepts like abstraction, encapsulation, and inheritance for enhanced modularity.

Candle Stick Chart Pattern Recognition | Link | *Python, Django, Flask, Deep Learning* January 2021 - May 2022
- Built a full stack web application using **Django** and **Flask**, providing seamless user interaction and enhanced performance, leveraging HTML, CSS, and JavaScript for a dynamic user interface.
- Implemented **Convolution Neural Networks (CNN)** and **Support Vector Machine (SVM)** models to identify candlestick chart patterns, achieving 78% and 73% accuracy in stock price predictions respectively, demonstrating **strong statistical, data visualization** and AI capabilities.

Extracurricular Activities

Smart India Hackathon (SIH) Representative: Led a team of 5 in the Smart India Hackathon, where we were selected at the national level to present an innovative drone solution for navigating high terrains during natural calamities and addressing industry challenges.
Publication: "Game Engine Architecture and Comparative Study of Different Game Engines" Link