Shraddha Shekhar

Buffalo, NY | +1 716-994-5448 | iamshraddhashekhar@gmail.com | www.linkedin.com/in/shraddha-shekhar/ | **Portfolio**
Available: Feb 2024

Education

University at Buffalo, The State University of New York Aug 2022 - Jan 2024
Master of Science in Computer Science and Engineering GPA:**3.92/4.00**
Courses: Natural Language Processing, Information Retrieval, Distributed Systems, Machine Learning, RL

Savitribai Phule Pune University Aug 2017 - July 2021
Bachelor of Engineering in Computer Engineering GPA: **9.32/10**
Courses: Data Structures, Computer Architecture, Computer Networks, Operating Systems, DBMS

Technical Skills

Languages: Python, C++/C, Java, GoLang, SQL, JavaScript, HTML.

Libraries & Frameworks: Numpy, Pandas, NLTK, Keras, Tensorflow 2, Pytorch, HuggingFace, BERT, OpenAI Gymnasium, Scikit-Learn, Matplotlib, Dash, Flask, Django, Spring Boot.

Databases & Tools: MySQL, MongoDB, Elasticsearch, GCP, AWS, Kafka, Spark, Apache Solr, Linux, Git, Tableau.

Work Experience

Software Development Engineer | Persistent Systems | Pune, India May 2021 – July 2022
- Worked on a project in collaboration with the Government of India, driving website traffic analysis and improving security through predictive identification of malicious actions.
- Led the team in automating log generation and developed a robust Data Simulator (Secure Data Lake) to conduct load testing, resulting in 97% data integrity rate and saving 12 hr per day.
- Collaborated with red team to simulate security threats and evaluating multiple edge cases, resulting in a 20% improvement in threat mitigation strategies.
- Developed ETL pipeline handling 40 million logs daily using Apache Kafka.
- Researched on Lateral Movement and User Behavior, leading to integration of insights into simulations.
- Contributed to open-source Wazuh agent-simulator with 6 new features expanding it's functionalities and robustness.

Data Science and Python Intern | Verzeo | Pune, India Dec 2020 – Mar 2021
- Performed data preprocessing, feature engineering and visualized the insights using responsive dashboards.
- Devised ML algorithms for Market Basket Analysis and Inventory Management for a local commercial business.

Projects

Empathetic Generative Chatbot: Multi-topic Conversational AI | GPT2, LLMs, NLP, Tensorflow, GCP, Flask
- Spearheaded development of a generative chatbot utilizing GPT2, RoBerta and information retrieval techniques to efficiently understanding emotions and holding a conversation with context change.
- Indexed 200k reddit posts on Apache Solr to rank the replies.
- Improved base model by fine-tuning GPT2 with NER tags and Sentiment Analysis to generate empathetic responses along with BERT and RoBerta to enhance factual responses.
- Deployed a flask app for the chatbot on Google Cloud Platform which served 15+ turns of coherent responses.

Educational Web App to Visualize RL Methods | RL, Gym, Pytorch, Flask
- Developed a Flask web application designed for RL course to demonstrate intricate workings of RL algorithms, Q-Learning, SARSA, Double DQN, to solve a custom multi-agent environment.
- The app's intuitive functionality empowers students to gain a deeper understanding of RL concepts through visualization of algorithms and effect of various parameters on the agent's learning process.

Natural Language to SQL Conversion with LSTM and AI | TF, MySQL, Word2vec
- Built deep learning models with LSTM, encoding, and vector embedding for converting natural language sentences into SQL queries, leveraging NLP and fundamental AI techniques for decision making.
- Developed an interactive Dash (plotly) front-end and integrated MySQL, achieving a 83% accuracy in fetching correct results for the generated queries. (http://www.jetir.org/papers/JETIR2106077.pdf)

Co-curricular & Achievements

Awards: Awarded by Peer's Choice, acknowledging dedication and effectiveness in delivering educational support as a TA.
Graduate Teaching Assistant: CSE 546-Reinforcement Learning (Spring 2023), CSE 574-Intro to Machine Learning (Summer 2023, Fall 2023)