Shraddha Shekhar

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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:**3.91/4.00**
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, CSS

Libraries and Frameworks: Numpy, Pandas, NLTK, Keras, Tensorflow 2, Pytorch, HuggingFace, BERT, Word2vec, OpenAI Gymnasium, Scikit-Learn, Matplotlib, Dash, Flask, Django, Spring Boot.

Software and Databases: Git, Jupyter Notebook, Tableau, Linux, MySQL, Mongo DB, PostgreSQL, Oracle, Elasticsearch, Kibana, Apache Solr, GCP.

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 execute Adversary Emulation, enabling simulation of diverse environments and resulting in a 20% improvement in threat mitigation strategies.
- Researched on Lateral Movement and User Behavior, leading to integration of these insights into simulations.
- Contributed to open-source community by augmenting the Wazuh agent-simulator with 6 new features expanding it's functionalities and making it robust.

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

Educational Web App to Visualize RL Methods | RL, Gym, Pytorch, Flask
- Developed a dynamic 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 by engaging with visual representations of algorithm behaviors and effect of various parameters on the agent's learning process.

Multi-topic Generative and Information Retrieval Chatbot | GPT2, LLMs, NLP, Tensorflow, GCP, Flask
- Spearheaded development of a chatbot utilizing strengths of GPT2, RoBerta and information retrieval techniques to generate response capable of efficiently holding a general and topic specific conversation.
- Improved base model by fine-tuning GPT2 with NER tags and Sentiment Analysis to generate empathetic responses along with leveraging BERT and RoBerta to enhance factual responses.
- Deployed a flask app for the chatbot on Google Cloud Platform.

Natural Language sentence to SQL query conversion using Deep Learning and Artificial Intelligence | TF
- Built Deep Learning models using LSTM, Encoding, Vector Embedding and incorporated NLP and fundamental Artificial Intelligence techniques for smart choices.
- Integrated all modules of project and created a user-friendly frontend using Dash (python).
- Published a research paper on the approach and efficacy in an international journal, JETIR. (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)