

Shraddha Shekhar

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EDUCATION

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| University at Buffalo, The State University of New York <i>Master of Science in Computer Science and Engineering</i> <i>Courses: Natural Lang Processing, Information Retrieval, Reinforcement Learning, ML</i> | Aug 2022 - Dec 2023 GPA: 3.91/4.00 |
| Savitribai Phule Pune University <i>Bachelor of Engineering in Computer Engineering</i> <i>Courses: Data Structures, Computer Architecture, Computer Networks, Operating Systems</i> | Aug 2017 - July 2021 GPA: 9.32/10 |

TECHNICAL SKILLS

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| Languages: Python, C++, C, Java, GoLang, SQL, JavaScript, HTML/CSS |
| Libraries and Frameworks: Numpy, Pandas, NLTK, Keras, Tensorflow 2, Pytorch, BERT, Word2vec, Gym, Gymnasium, Scikit-Learn, Matplotlib, Dash, Flask, Django, Spring Boot. |
| Software and Databases: Git, Jupyter Notebook, Tableau, MySQL, Mongo DB, PostgreSQL, Oracle, Elasticsearch, Kibana, Apache Solr, GCP. |

WORK EXPERIENCE

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| University at Buffalo <i>Independent Study under Prof. Alina Vereshchaka</i> | Buffalo, New York <i>Jan 2023 – May 2023</i> |
| <ul style="list-style-type: none">Developed a dynamic Flask web application designed for RL course to visually illustrate intricate workings of RL algorithms, Q-Learning, SARSA, Double DQN, to solve a custom 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. | |
| Persistent Systems <i>Software Development Engineer</i> | Pune, India <i>May 2021 – July 2022</i> |
| <ul style="list-style-type: none">Worked on a project in collaboration with the Government of India, driving website traffic analysis and improving security through predictive identification of malicious actions.Architected and developed a robust Data Simulator (Secure Data Lake) to conduct load testing, resulting in 97% data integrity rate.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. | |
| The Digital Tantra <i>Web Development Intern Wordpress, JavaScript, HTML, CSS</i> | Pune, India <i>Mar 2020 – Apr 2020</i> |
| <ul style="list-style-type: none">Designed and built entire website for The Digital Tantra from scratch.Devised a user-friendly and responsive website, leading to a 32% increase in user engagement and site traffic. | |

PROJECTS

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| Multi-topic Generative and Information Retrieval Chatbot GPT2, LLMs, NLP, Tensorflow, GCP, Flask | |
| <ul style="list-style-type: none">• 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.• Fine-tuned GPT2 with NER tags and Sentiment Analysis to generate empathetic responses.• Leveraged BERT and RoBerta to enhance generation of factual responses using indexed documents on Apache Solr and sentence transformer.• Deployed a flask app for the chatbot on Google Cloud Platform. | |
| Natural Language sentence to SQL query conversion using Deep Learning and Artificial Intelligence TensorFlow | |
| <ul style="list-style-type: none">• Built Deep Learning models using LSTM, Encoding, Vector Embedding and incorporated fundamental Artificial Intelligence techniques and NLP 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, Journal of Emerging Technologies and Innovative Research. | |
| Solving Multi-Agent environment using Deep Reinforcement Learning Algorithms Pytorch, Gym | |
| <ul style="list-style-type: none">• Solved multi-agent gym environment, Checkers and custom grid world, by implementing complex deep RL algorithms such as DQN, Double DQN, Actor-Critic. | |

CO-CURRICULAR & ACHIEVEMENTS

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| Awards: Received the prestigious Peer's Choice Award, acknowledging outstanding 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) |