

Shefali Saxena

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EDUCATION

- University of Illinois Urbana-Champaign (UIUC); Eligible for Full-Time Employment in Summer/Fall/Winter 2024** Champaign, IL, USA
Master of Science in Information Management – Machine Learning Track (STEM); GPA: 4/4 Aug 2023 - May 2025
Courses: Methods of Data Science, Information/Data Modeling, Applied Machine Learning, Distributed Systems, Data & Statistical models, DBMS
- Institute of Engineering and Technology (IET DAVV)** Indore, MP, India
Bachelor of Engineering – Electronics & Instrumentation; GPA: 3.7/4 Jul 2017 - May 2021
Courses: Artificial Intelligence, Operating Systems, Data Structures and Algorithms, Software Engineering, SDLC, Object Oriented Programming

TECHNICAL SKILLS

Programming Languages: Python, Java 11, JavaScript, SQL | **Tools:** Tableau, Power BI, Postman, Github, JIRA, RedHat Openshift, Git version control
Libraries & Databases: Pandas, NumPy, Matplotlib, Seaborn, Sklearn, Keras, Tensorflow, PyTorch, MySQL, OracleDB, PostgreSQL
Frameworks, Cloud & Tools: Flask, RESTful API, Django, SpringBoot, AWS (S3, EC2, ElasticSearch, RDS), React.js, Docker, Kubernetes, Kafka

WORK EXPERIENCE

- University of Illinois Urbana-Champaign – Guardai.io** Champaign, IL, USA
Graduate Student Researcher – Full Stack Developer Nov 2023 – Present
 - Leading a team of **7** in developing a web-based AI underwriting tool for GuardAI.io with Prof. Haohan Wang, aimed at achieving EU-compliant vulnerability detection in **LLMs**.
 - Utilizing **Python, Pandas, JavaScript, React & MySQL** for pre-processing data, developing the web interface and service backend.
 - Leveraging **AWS EC2 & Kubernetes** for scalable deployment and developing machine learning pipelines to detect vulnerabilities in large language models, ensuring compliance with EU Artificial Intelligence Act standards.
- LTIMindtree LTD. (Formerly Larsen & Toubro Infotech LTD.)** Pune, India
Software Engineer – Citi Jun 2021 - Apr 2023
 - Collaborated cross-functionally on developing and deploying a **Python** (NLP – Glove) & **React.js** multi-tenant Chatbot, aimed to reduce email communication by answering redundant user queries and automating **65%** basic workflows of Citi's MONET application.
 - Designed and implemented clean **REST APIs** to expose the required functionalities for the core Chatbot features using **Python & Flask** framework for **back end** development, and increased code coverage from **38% to >80%**.
 - Leveraged **Kafka** queues and trained and fine-tuned the **Glove NLP model** with a dataset of **10,000+** user interactions.
 - Enhanced **API** latency by over using optimization and **Elasticsearch** ensuring optimal health of key **microservices**.
- Graduate Engineer Trainee - Software Engineering Intern**
 - Participated in leveraging **SQL** in an internal project aimed at enhancing transactional processes across multiple departments within a banking institution. Extracted and transformed essential **data**, improving system performance & enhanced user experience.
 - Participated in **code reviews** and ensured best practices for **unit testing**, resulting in a significant reduction in the number of post-release bugs.
- eManageHealth Technologies** Bengaluru, India
Data Science Intern May 2018 - Aug 2018
 - Developed and validated **machine learning** models, resulting in a significant increase in the accuracy of healthcare predictions.
 - Led the optimization of **data preprocessing** workflows using **Python**, resulting in a notable reduction in processing times. Detected anomalies in website, resulting in enhanced user experience.

PROJECTS

- Real-Time Face Mask Detection – Deep Learning & Computer Vision**
 - Developed a real-time face mask detection application using **YOLO, Python, CNN, Keras, Tensorflow, OpenCV and MobileNetV2** and datasets of **2000+** images from Kaggle.
 - Analyzed detection results to validate machine learning model efficiency with **96.77%** accuracy rate.
- Credit Card Fraud Detection – Data Science/Machine Learning**
 - Leveraged **Logistic Regression, KNN, Decision Trees, Random Forest and XGBoost models** to achieve accurate classification of fraudulent transactions on a dataset of **1 million records** and **434 input features**.
 - Analyzed the system by monitoring transactional data and unusual purchasing behavior detected in real-time, to prevent financial losses.
- Employment Authorization Application for US Immigrants – Full Stack Development & Data Science**
 - Developed a user-friendly **React** intake form mirroring Form I-765 for US immigration, with data persistence via **Spring Boot backend**.
 - Designed and implemented a review page for user edits, ensuring backend **PostgreSQL** database synchronization and populating the PDF using PyPDF2. Successfully deployed both the frontend and backend components on **AWS EC2**, prioritizing efficiency and accessibility.
- Directorate of Physical Education and Sports Official Website, DAVV – Web Development & Data visualization**
 - Developed the official department website to overcome the issue of missing out on important announcements and information related to try-outs and competitions. Designed descriptive **dashboards** using **Tableau** and **Power BI** to understand and manage website traffic and user engagement.
 - The website is deployed at www.dauniv.ac.in/new/sports and used by more than **2000+** students and faculty members.

CERTIFICATIONS & ACHIEVEMENTS

- Oracle** Certified Professional: **JAVA SE 11 Developer** (Exam Number : 1z0-819 (link))
- Software Engineering Virtual Experience from **JPMorgan Chase & CO.**
- Secured **2nd rank** in **Hackvento 2018** - an annual **hackathon** hosted by IET DAVV on **CodeChef**.