

# Harshal Patil

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## EDUCATION

- **State University At New York At Buffalo** New York, USA  
*MS Engineering Science (Data Science)* Aug. 2024 – Present
- **Modern Education Society's College of Engineering** Maharashtra, India  
*Bachelor's of Engineering in Electronics and Telecommunication* Aug. 2018 – April 2022

## SKILLS SUMMARY

- **Languages:** Python, SQL, C#, C/C++, R, JavaScript, HTML/CSS, Data structures
- **Frameworks:** Blazor, Entity Framework, .NET, Camunda Workflow, React
- **Tools:** Jupyter Notebook, Tableau, VS Code, Visual Studio, Azure, Git, Git-Hub, Matlab, Swagger, Postman, DBeaver, Microsoft Office, Excel
- **Libraries:** Pandas, NumPy, Matplotlib (basic)
- **Soft Skills:** Leadership, Event Management, Time Management

## EXPERIENCE

- **Assistant Manager (Senior Software Developer Engineer)** Sept 2022 – July 2024  
*Reliance Jio Platforms LTD* New Mumbai, India
  - **Planned, designed, and developed web applications:** following software development best practices to meet business objectives and user needs.
  - **Developed and integrated optimized automation scripts:** with Mudblazor, reducing server downtime by 10 hours per month and ensuring consistent application performance for a growing database of 100,000 records.
  - **Architected and implemented API:** to enhance operational efficiency and data accessibility, focusing on optimizing system performance.
  - **Designed and deployed workflow models:** using Camunda BPMN for streamlined processes, improving overall operational workflows.
  - **Managed MySQL databases:** focusing on maintaining data integrity and streamlining operations for data analysis and reporting.
  - **Conducted unit testing:** and collaborated with the quality assurance team to ensure error-free software delivery, emphasizing rigorous testing and quality assurance.
  - **Managed multiple projects:** delivering on time and within budget, while upholding high quality standards.
  - **Led efforts to enhance software engineering practices:** including testing and code review, ensuring robust and reliable application development.
  - **Fostered a culture of continuous learning:** and effective communication, facilitating team collaboration, and driving innovation.

## PROJECTS

- **Fall Detection Using Image Processing (Machine Learning, Deep Learning) :** Developed a system for detecting human falls using video input, machine learning, and deep learning. The process included image pre-processing, feature extraction, and classification with Convolutional Neural Networks (CNNs). The system segments video data and trains a CNN to classify fall events accurately.
- **Smart door and security system (Embedded Systems, IoT):** Developed a real-time house security monitoring system with an automated door lock mechanism. Integrated components include ILC7107, Arduino, PCB, Bluetooth, Relay, GSM, and LCD for system control and communication.
- **Fake News Detection with Machine Learning (Data Analysis, Recurrent Neural Networks):** Performed text data cleaning by removing punctuation and stop words, and prepared datasets for analysis using tokenization and padding techniques. Conducted data analysis and visualized datasets through word clouds and other visualization methods to gain insights into text data. Built and trained a Recurrent Neural Network (RNN) model using LSTM units to detect fake news. Assessed the performance of the trained deep learning model, optimizing for accuracy and reliability in detecting fake news.
- **Web Application for Database Operations (Web Development):** Created a web application to perform CRUD operations on a database using REST APIs. Leveraged technologies including SQL, .NET, Entity Framework, and C# for back-end development, with HTML/CSS for front-end design.
- **Digital Tic Tac Toe Game (Web Development, Web Crawler, Search):** Created from scratch a social network and a search engine based on the idea of integrating Facebook and Google. The launched website was among the top 1000 websites in India during 2012-2013. Tech: Jupyter Notebook, Python

## CERTIFICATIONS

- Python for Data Science, AI, and Development
- Introduction to Cloud Computing
- Web development with HTML, CSS, and JavaScript
- Introduction to Entity Framework
- Developing Front-End app with React