Brajesh Kumar

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Skills

- **Programming Languages:** **Python**, SQL, Bash
- **Frameworks/Libraries:** **Keras**, **scikit-learn**, **OpenCV**, NLTK, spaCy, **TensorFlow**, **Fuzzy Logic**, **Python pickle**, scikit-learn
- **Tools/Platforms:** Git, GitHub, Docker, Jenkins, Streamlit, **DevOps**
- **Data Analysis:** **pandas**, **NumPy**, Matplotlib, Seaborn, Plotly
- **Soft Skills:** Problem-Solving Skills, Team Player, Project Management, communication skills

Experience

AI Instructor – READ India NGO *Apr–Jun 2023*
- Delivered AI and ML workshops to 100+ students, guiding hands-on coding sessions and project development.
- Enhanced student understanding of machine learning concepts and engagement

Projects

- **Maze Runner Game — Microservices Web Game** LINK *Mar 2025*
  - Built a maze game using **Flask**, **Docker**, and microservices with real-time UI, Jenkins CI/CD, modular backend.
  - The game challenges players to navigate through a randomly generated maze, providing unique and engaging gameplay.
  - Features real-time feedback and random maze generation for an engaging user experience.
  - Implemented Jenkins CI/CD pipeline for continuous integration and deployment.

  Tech: **Python**, **Flask**, **Docker**, Git

- **Named Entity Recognition App** LINK *Nov–Dec 2024*
  - Developed an interactive **NER** web application using **CRF** for entity tagging.
  - The app processes input text to identify various named entities such as **persons**, **locations**, **organizations**, and **time expressions**.
  - Built with **Python**, **spaCy**, **NLTK**, and **Streamlit** to allow real-time predictions.
  - The application offers color-coded entity labels for better visualization of entity recognition.
  - Integrated **sklearn-crfsuite** for model training, hyperparameter tuning, and improving the accuracy of entity extraction.

  Tech: **Python**, **CRF** (Conditional Random Fields), **NLTK**, **spaCy**, **Streamlit**, **sklearn-crfsuite**, Machine Learning

- **Real-Time Face Mask Detector Software** LINK *Mar–Apr 2024*
  - Developed a real-time face mask detection software using deep learning for face detection and mask classification.
  - Leveraged **OpenCV** for real-time face detection and used a **pre-trained MobileNetV2 model** for mask classification.
  - Processed live video streams and detected multiple faces simultaneously with bounding boxes and mask labels.
  - Fine-tuned the MobileNetV2 model by adapting it to a custom dataset for accurate mask classification.
  - Optimized the model by training only the top layers while freezing the base layers, leveraging pre-trained features from **ImageNet**.

  Tech: **Python**, **OpenCV**, **Keras**, **TensorFlow**, **NumPy**, imutils, **Fine-tuning**, **MobileNetV2**, **CNN**

Achievements

- **Achieved 90 WPM typing speed** Link
- **Research Paper Accepted for Publication** — *NER using CRFs* (Sep 2024) Link
- **Top 10% Dean's List, LPU** (Aug 2024) Link

Certifications

- **IBM DevOps and Software Engineering** Link
- **Mastering Data Structures Algorithms using C and C++** Link
- **NPTEL Cloud Computing** Link
- **Python Bootcamp: Zero to Hero** Link
- **Static Routing Using Packet Tracer** Link

Education

- **Lovely Professional University, Punjab, India** *Aug 2022 – Present*
  Bachelor of Technology - Computer Science and Engineering *CGPA: 7.43*
- **Indian Public School, Madhubani, Bihar** *Apr 2018 – Mar 2020*
  Intermediate *Percentage: 70.2%*
- **Indian Public School, Madhubani, Bihar** *Apr 2017 – Mar 2018*
  Matriculation *Percentage: 72.3%*