Akarsh Singh

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EDUCATION

Indian Institute of Information Technology, Kota   Kota, Rajasthan
B.Tech in Electronics and Communication Engineering, CGPA: 8.18 (Current)   *2022 – 2026*

STELLA MARIS CONVENT SCHOOL
CBSE 12th: 95.6%, 10th: 94.6%   –

TECHNICAL SKILLS

Languages: C/C++, Python
Web Technologies: HTML, CSS, JavaScript, React.js, Tailwind CSS, Node.js, Express.js
Databases: MySQL, MongoDB
Data Science/ML: NumPy, Pandas, Scikit-Learn, TensorFlow, Keras, Matplotlib
Data Viz: Power BI, Tableau
Tools: Git, GitHub, Linux, Jupyter, VS Code, ns-3, OMNET++, Matlab

PROJECTS

Task Management System | *MERN Stack*
- Created a full-stack task manager with user authentication, protected routes, and personalized dashboards.
- Implemented JWT-based authentication and role-specific task views.
- Scheduled deadline alerts and optimized MongoDB queries for fast performance.
- Included drag-and-drop task management, priority tagging, and filtering options.

AI-Powered Image Caption Generator | *Python, TensorFlow, Keras, OpenCV, NLTK, Matplotlib*
- Built a **CNN-RNN model** using **ResNet152** for feature extraction and **BiLSTM with dot-product attention** for caption generation.
- Trained on the **Flickr8k dataset** (8000 images, 5 captions each) with preprocessing techniques like **image resizing, tokenization, and padding** to enhance performance.
- Implemented **beam search decoding** (beam width = 3) to improve caption fluency, outperforming greedy decoding approaches.

Currency Converter Web App | *React.js, REST API, Tailwind CSS*
- Built a responsive currency converter web app using React.js and Tailwind CSS, supporting 150+ currencies.
- Integrated real-time exchange rates using exchangerate.host API.
- Implemented currency swapping, input validation, and formatted output display via React state management.
- Enhanced UI with background images, themed design, and animated transitions.

COURSES & CERTIFICATIONS

- **Google Cloud Essentials** – Google Cloud Skills Boost
  Gained hands-on experience with GCP services such as Compute Engine, Cloud Storage, and App Engine.

- **Deloitte on Forage**
  Completed hands-on simulation covering data analysis and forensic technology tasks.

- **Responsive Web Design** – **freeCodeCamp**
  Completed 300+ hours of coursework covering HTML5, CSS3, Flexbox, and Grid layout techniques.

ACHIEVEMENTS

- Solved over 300 Data Structures and Algorithms problems, demonstrating strong analytical and problem-solving skills.

- Served as a mentor for juniors in DSA and web development, guiding them through coding problems and projects.