

Varun Kumar Singh

Software Engineer

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EXPERIENCE

Software Engineering Job Simulation

Walmart Global Tech

May 2024 - July 2024

Remote, India

- Engineered a custom heap data structure in Java for Walmart's shipping optimization, improving runtime efficiency by 25%.
- Designed UML class diagrams for a multi-mode data processor, integrating robust database connectivity.
- Created an entity-relationship diagram for a pet department database, enhancing data retrieval speed by 15%.

Full Stack Web Development Intern

Business Web Solutions (BWS Inc.)

May 2025 - July 2025

Remote, India

- Collaborated on live web development projects, building responsive front-end interfaces and integrating back-end APIs for seamless user experience.
- Designed and optimized scalable databases, including ER diagrams and efficient SQL queries, improving data handling by 15%.
- Developed modular and reusable components using modern full-stack technologies to accelerate project deployment.
- Participated in agile sprint planning and review sessions, ensuring timely and client-aligned project delivery.

ACHIEVEMENTS

- Researched AI ethics, rare disease prediction, and data imbalance.
- Volunteered in 10+ events at Chandigarh University as a part of the Discipline Team.
- Competed in 5+ hackathons at Chandigarh University, showcasing problem solving and innovation skills.
- Proficient in C, C++, Python, and AI-driven applications.
- Solved 100+ coding questions across various platforms, enhancing algorithmic and problem-solving abilities.

CERTIFICATIONS

- Google: [IT Automation with Python](#)
- DeepLearning.AI: [Deep Learning Specialization](#)

EDUCATION

B.E. (Computer Science Engineering)

Chandigarh University

2023 - 2027

6.59 CGPA

Punjab, India

TECHNICAL SKILLS

- Programming:** Python, C++
- AI & Machine Learning:** TensorFlow, PyTorch, Scikit-Learn, NLTK
- Libraries:** NumPy, Pandas, Matplotlib, OpenCV
- Database & Cloud:** MySQL, AWS
- DevOps & Tools:** Git, GitHub, Docker, Jenkins (CI/CD)

PROJECTS

Object Detection System

[GitHub](#)

- Implemented Real-time Object Detection using YOLOv8 with webcam and video input.
- Optimized accuracy - Fine-tuned model parameters for improved detection performance.
- Integrated Bounding-Box Visualization using OpenCV and CVZone for accurate object localization.
- Displayed Confidence Scores for detected objects to enhance model interpretability.
- Developed multiclass object recognition using COCO dataset labels for various detections.
- Optimized Detection Performance for real-time processing with YOLOv8 and Python.

Email Spam Detection

[GitHub](#)

- Developed a Spam Detection Model using Naïve Bayes and NLP techniques.
- Preprocessed Text Data by removing duplicates and applying stop-word filtering.
- Implemented Feature Extraction using CountVectorizer for text vectorization.
- Trained and Evaluated Model with an 80-20 train-test split for accuracy assessment.
- Built a Streamlit Web App for real-time spam message classification.