Bhavana Koli

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EDUCATION:

Vellore Institute of Technology
B.Tech in Computer Science And Engineering-8.85 CGPA   Expected July 2026

TECHNICAL SKILLS:

- **Backend Development:** Python, FastAPI, REST APIs, API validation (Pydantic)
- **Databases**:   MySQL (CRUD, joins, indexing), ORM: SQLAlchemy
- **Coding Languages:**   Python
- **Deployment:**   Git, GitHub, AWS (basic**),** Streamlit**,** Docker, CI/CD
- **Data and ML:**   Numpy,Pandas,TensorFlow, Pytorch

PROJECTS:

MindWell |Python Backend- Python, Streamlit, Pandas, NLP, FastAPI   May 2025 - June 2025
- Designed and developed REST APIs using FastAPI to handle user sessions, quiz logic, and therapy workflows.
- Built backend services for sentiment analysis and real-time emotional feedback..
- Integrated third-party audio APIs and managed backend data flow for rewards and engagement tracking.
- Structured backend data pipelines using Pandas and MySQL for efficient assessment storage.

RetinoScan |Machine Learning- Python, TensorFlow, OpenCV, CNN, Streamlit   June 2024 – May 2025
- Developed a CNN-based deep learning pipeline for diagnosing Diabetes, Hypertension, and Autism from retinal images, achieving a 79% AUC score on validation data.
- Implemented 4+ preprocessing techniques and 2x data augmentation, boosting image clarity by 25% and model robustness across 1,400+ labeled images.
- Performed optic disc segmentation and feature extraction on 5,000+ retinal images, enhancing classification accuracy and confidence.
- Built an interactive Streamlit dashboard for real-time diagnosis visualization with severity scoring, identifying 3 key bottlenecks in the diagnostic workflow.

PoseSense |Backend & ML- Python, FastAPI, PyTorch, OpenCV   January 2024– May 2024
- Developed backend services to process pose data and return posture scores via APIs.
- Developed pose-angle calculations with OpenCV, improving posture-scoring accuracy by **32%**.
- Preprocessed and augmented 8,000+ images, reducing keypoint error and boosting model robustness.
- Created a Streamlit dashboard with skeleton overlays, posture alerts, and downloadable PDF reports.

ACHIEVEMENTS:

- **Hackathon Finalist:** Ranked top 50/236 teams in Health Hack 2025 by VIT Bhopal & Johns Hopkins University (JHU), USA (February 2025)-demonstrated collaboration and creative strategic-thinking.
- **Hackathon Participation:** Delivered AI and web-based solutions in domains of women empowerment, mental health, and healthcare at EY Techathon 5.0, Imagine Hackathon, and HP Power Lab Hackathon.
- **Coding Challenges:** Accomplished 100 Days of Coding & 60 Days of Data Science under Dr. G Viswanathan Challenge (2024), while actively pursuing my ongoing #JourneyToMLPro Challenge (2025).
- Provided bug-fixes and documentation improvements to open-source computer-vision repository, improving usability for 200+ developers.

EXTRACURRICULAR:

- First place in Football & 2× Runner up at Inter-University Tournament, Advitya Techno-Cultural Fest (February 2023).
- Champion (December 2022) & Runner-up (December 2023) in University Dance Competitions.
- Technical Lead of Marathi Regional Club at VIT Bhopal, mentoring 30+ members.