TANISHQ MIGLANI

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EDUCATION

Bachelor of Technology, Computer Science **2022 - Present**
VIT Bhopal University

12th Standard **2020 – 2021**
U.S.M Public School, Delhi

10th Standard **2018 – 2019**
St. Mary's School, Hisar

TECHNICAL SKILLS

- **Programming Languages:** Python, Java, HTML5, CSS3, JavaScript
- **Frameworks & Libraries:** React.js, Flask, Express.js, Bootstrap, Node.js, Tailwind CSS
- **Machine Learning:** Scikit-Learn, NumPy, Pandas, Matplotlib, Seaborn, TensorFlow
- **Database Management:** Mongo DB

PROJECTS

- **Brain Tumor Detection using Deep Learning** *Aug 2025 – Sep 2025*
  - ❖ Built a transfer learning pipeline on top of pre-trained VGG16 CNN with frozen convolutional layers and selectively trainable final layers, integrating Flatten, Dense, and Dropout layers to optimize classification while preventing overfitting. Incorporated Grad-CAM explainable AI techniques to visualize tumor regions in MRI scans for model interpretability.
  - ❖ Developed and deployed a Flask backend API that handled MRI preprocessing, inference through the optimized CNN, and visualization outputs, ensuring seamless integration with web/mobile healthcare applications and real-time accessibility.
  - ❖ Achieved 96.8% classification accuracy on benchmark brain MRI dataset, reduced model inference time to <250ms, and delivered interpretable predictions that increased clinical trust and usability, showcasing a production-ready AI healthcare solution

- **Heart Disease Prediction System** *Jan 2025 – May 2025*
  - ❖ Implemented mobile-responsive interface using HTML/CSS/JavaScript integrated with Flask API, enabling real-time cardiovascular risk assessment through trained machine learning models.
  - ❖ Constructed robust stacked ensemble classifier (Random Forest + KNN) using Hyperband hyperparameter tuning, achieving 97.67% cross-validation accuracy and 99.40% test accuracy.
  - ❖ Executed comprehensive data preprocessing on Cleveland Heart Disease dataset with feature scaling and normalization, outperforming traditional methods like SVM (93.60%) and Logistic Regression (86.40%)

- **Donate Red - Blood Donation Website** *Jan 2024 – May 2024*
  - ❖ Architected comprehensive blood donation platform using MERN stack with JWT authentication and role-based access control, optimizing API response times to 200-250ms for 500+ concurrent users.
  - ❖ Developed intelligent donor eligibility system with automated health criteria validation and real-time donor-recipient matching algorithms, reducing manual verification overhead by 60%.
  - ❖ Deployed production-ready application on Render.com with responsive UI integration, facilitating successful blood donation connections and ensuring 100% compliance with medical donation standards.

ADDITIONAL

- **Certifications:** HTML, CSS and JavaScript for Web Developers (Johns Hopkins University), DevOps, Agile & Design Thinking (IBM)
- **Achievements:** 100 Days of Code Challenge – Completed intensive coding challenge, consistently solving daily problems to strengthen algorithmic thinking and programming consistency.