SHIVANSHU SAWAN
Python Developer

I am a highly motivated Python Developer with strong expertise in building scalable and efficient applications using Django. With a solid understanding of software development principles and problem-solving skills, I specialize in designing and implementing backend solutions, integrating databases, and ensuring the performance and reliability of applications. I am passionate about writing clean, maintainable code and continuously improving my technical skills to deliver high-quality software solutions.

Technical Skills
Languages: Python, C++, SQL, HTML
Frameworks: Django
Databases: MySQL
Operating Systems: Linux, Windows
Other: Git, GitHub, Problem-Solving, Data Structures & Algorithms

Professional Experience
Company: Avisoft
Role: Software Engineer Trainee
Duration: Jan 2025 – Present

Projects
DIABETIC RETINOPATHY DIAGNOSIS
Technologies used: Python, TensorFlow, OpenCV, Pandas
Role: Machine Learning Engineer
GitHub Link: https://huggingface.co/spaces/shivanshu66/Diabetic-Retinopathy/tree/main
Live Link : https://huggingface.co/spaces/shivanshu66/Diabetic-Retinopathy

Project Description:
Designed and implemented a deep learning model for diabetic retinopathy detection using Convolutional Neural Networks (CNNs), achieving **94% accuracy**. The system analyzes retina images to classify the severity of diabetic retinopathy into distinct stages, enabling early diagnosis and timely medical intervention. Leveraged preprocessing techniques for image enhancement and dataset balancing, followed by transfer learning with fine-tuned architectures like Efficient-Net B3, ResNet50. The solution integrates Grad-CAM visualizations for interpretability and supports seamless deployment for clinical use cases.

Responsibilities:
- Designed and developed a CNN-based model using TensorFlow/Keras, optimizing hyperparameters to achieve **94% accuracy** on retinal image classification.
- Preprocessed and augmented retina **datasets APTOS 2019** using OpenCV and Pandas, addressing class imbalance and improving model robustness.
- Implemented transfer learning with **pretrained models (ResNet50, Efficient-Net B3),** reducing training time by 35% while maintaining high precision.
- Collaborated with **medical professionals** to validate model outputs, ensuring alignment with clinical diagnostic standards.

FACE RECOGNITION SYSTEM
Technologies used: OpenCV, CustomTkinter
Role: Machine Learning Engineer
GitHub Link: https://github.com/shivanshusawan66/Face-Detection
Download Link: https://github.com/singhdivyanshdishu/Face-Recognition/releases/download/v1.0/Face-Recogition-Setup.exe

Project Description:
Face Recognition System is an advanced application designed to capture, detect, and recognize faces with high accuracy using the **LBPH (Local Binary Patterns Histogram) model**. The system ensures reliable identification by extracting unique facial features and comparing them against a stored dataset. A **modern, user-friendly interface** was built using **CustomTkinter**, offering seamless interaction and accessibility. A **one-click setup file** simplifies installation, making it easy for users to deploy the application.

Responsibilities:
- Developed a **face recognition system** using **LBPH** for accurate real-time face detection and identification.
- Implemented **OpenCV-based image processing** for efficient face capturing and feature extraction.
- Designed a **modern UI with CustomTkinter**, ensuring an intuitive user experience. Created a **convenient setup file** for smooth installation and deployment.

DIABETIC DIAGNOSTIC TOOL
Technologies used: Logistic Regression, Decision Tree, Python, Scikit-Learn, Streamlit
Role: Machine Learning Developer
GitHub Link: https://github.com/shivanshusawan66/sugar-sense
Live Link: https://sugar-sense.streamlit.app/

Project Description:
Diabetes Diagnostic Tool is an AI-powered application designed to predict diabetes risk based on **eight key health attributes**. It features **multiple machine learning models**, including **Logistic**

Regression and Decision Tree, allowing users to **compare predictions for higher accuracy**. The tool enables users to analyze their health data and obtain **data-driven insights for early diagnosis and preventive measures**.

Responsibilities:

- Developed a **diabetes prediction system** using **Logistic Regression and Decision Tree** for comparative analysis.
- Engineered and preprocessed **health attribute data** for accurate and efficient model training.
- Implemented **interactive model selection**, allowing users to switch between different AI models.
- Optimized machine learning algorithms for **higher accuracy and performance**.
- Designed a **user-friendly interface** for seamless data input and result interpretation.