

## **OrganInsight Unveiling the Depths of Medical Imaging with AI**

### **Abstract**

OrganInsight is a web-based application designed to make 3D medical image analysis more accessible and understandable through the use of artificial intelligence. It utilizes a pre-trained PyTorch model, trained on the OrganMNIST3D dataset, to classify 3D organ images. By combining advanced AI techniques with an intuitive user interface, OrganInsight aims to bridge the gap between complex medical imaging and easy-to-understand interpretation. The frontend, developed with React, provides an interactive and visually appealing platform for users to upload and view 3D medical images. The backend, powered by Python, analyzes these images using the pre-trained PyTorch model to classify the organ depicted in the scan. Once the classification is complete, the results are displayed alongside the 3D image, allowing users to clearly understand the analysis. To enhance accessibility, OrganInsight integrates the ChatGPT API to generate plain-language descriptions of the classified images. These descriptions explain the findings in simple terms, making them easier for non-experts, such as patients or healthcare professionals, to interpret. OrganInsight addresses the challenges of 3D medical imaging by integrating advanced AI, interactive visualization, and natural language processing. It simplifies the classification of 3D organ images and provides insightful information that can aid in diagnosis, education, and patient communication. By democratizing access to sophisticated medical imaging tools, OrganInsight represents a step toward making healthcare technology more accessible and user-friendly. This project demonstrates the potential of AI to revolutionize medical imaging, offering a powerful yet user-friendly tool for interpreting complex 3D organ scans. OrganInsight is designed to empower users with information, facilitating improved decision-making and communication in healthcare.