Functional Requirements

IEEE: 3.2 | ISO: Functionality

- Developed an AI-driven health monitoring system for real-time health data analysis
- Optimized predictive analytics, enhancing decision support, and improving patient care insights
- Engineered an IoT-based automation system using Arduino and MQTT for real-time infrastructure monitoring
- Designed and deployed machine learning model using TensorFlow and Keras for defect detection in PCB manufacturing
- Developed a CNN-based AI model using TensorFlow, Keras to classify ovarian cancer subtypes
- Implemented Explainable AI (SHAP, Grad-CAM) for diagnostic transparency and transfer learning to boost model adaptability and enhanced generalization
- Optimized model performance with hyperparameter tuning and data augmentation, achieving high accuracy
- Developed an AI-powered deep learning system for detecting burnt marks, rust, water damage, and pad defects in printed circuit boards (PCBs) with high accuracy
- Designed and implemented a scalable solution for real-time multi-class defect classification in a manufacturing
- Optimized data augmentation and feature extraction, boosting defect detection to high accuracy
- Built an AI-driven real-time health monitoring system using Django for predictive analytics
- Developed a Django-based API-driven health monitoring system for real-time biometric data analysis
- Implemented a user-friendly dashboard with personalized health recommendations for improved user well-being

Non-Functional Requirements

IEEE: 3.3 | ISO: Usability

- High accuracy in defect detection and health monitoring
- Scalability and optimization of machine learning models
- Real-time data analysis and processing
- User-friendly dashboard and API for health monitoring
- High performance and efficiency in PCB defect detection and health monitoring

Business Rules

IEEE: N/A | ISO: N/A

- None

Constraints

IEEE: 3.4 | ISO: Portability

- None

Assumptions

IEEE: 3.5 | ISO: Maintainability

- None