GOVERNMENT COLLEGE OF ENGINEERING AURANGABAD Chh. Sambhajinagar

CENTRE OF EXCELLENCE

THINKING SYSTEMS FOR SIGNAL AND IMAGE PROCESSING

OBJECTIVE

DEVELOP SMART SYSTEMS USING AI-BASED SIGNAL PROCESSING TECHNIQUES FOR REAL-WORLD APPLICATIONS.

FOCUS AREAS

SPEECH/AUDIO PROCESSING, IMAGE/VIDEO PROCESSING, BIOMEDICAL SIGNAL PROCESSING, AND SENSOR DATA ANALYSIS

IMPACT

EMPOWER STUDENTS, FACULTY, AND INDUSTRY WITH CUTTING-EDGE RESEARCH, CONSULTANCY SERVICES, AND INNOVATION.

KEY GOALS

DEVELOP PROTOTYPE HARDWARE/SOFTWARE SYSTEMS TO IMPLEMENT INTELLIGENT SIGNAL PROCESSING IN REAL-TIME AND MULTI-MODAL DATA PROCESSING.

TEACHING ASSISTANTSHIP
(Stipend) for
PhD research scholars
& selected MTech students

EQUIPPED WITH STATE-OF-THE-ART TOOLS
THE CENTRE OF EXCELLENCE WILL UTILIZE
# SOME OF THE MOST ADVANCED TECHNOLOGIES


Data Analytics

Biometric System

- **DRONE WITH THERMAL CAMERA** FOR THERMAL IMAGING IN STRUCTURAL AND ENVIRONMENTAL STUDIES.
- **FUNDUSCOPY (RETINAL) CAMERA** FOR HIGH-DETAIL BIOMEDICAL IMAGING.
- **SPECTRORADIOMETER** FOR PRECISE LIGHT MEASUREMENT ACROSS DIFFERENT WAVELENGTHS.
- **MULTISPECTRAL AND RGB SENSORS ON DRONES** FOR AGRICULTURAL AND ENVIRONMENTAL MONITORING.
- **DRONES WITH LIDAR** FOR GENERATING 3D MAPS AND GEOSPATIAL ANALYSIS.
- **HYPERSPECTRAL SENSORS** TO DETECT SUBTLE MATERIAL PROPERTIES IN VARIOUS APPLICATIONS.
- **SCANNING ELECTRON MICROSCOPY** FOR ULTRA-HIGH-RESOLUTION IMAGING AT MICROSCOPIC LEVELS.
- **AI DEVELOPER SYSTEMS** TO FOSTER AI-DRIVEN SOLUTIONS IN SIGNAL AND IMAGE PROCESSING.
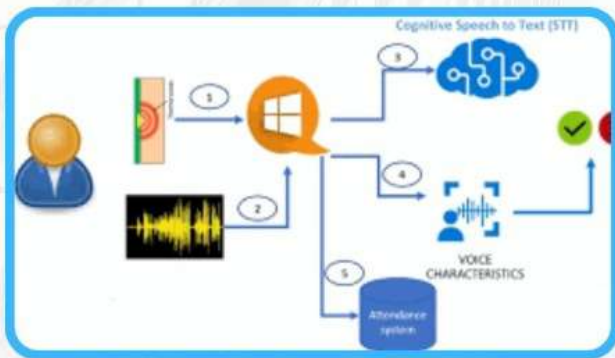
Cognitive Computing
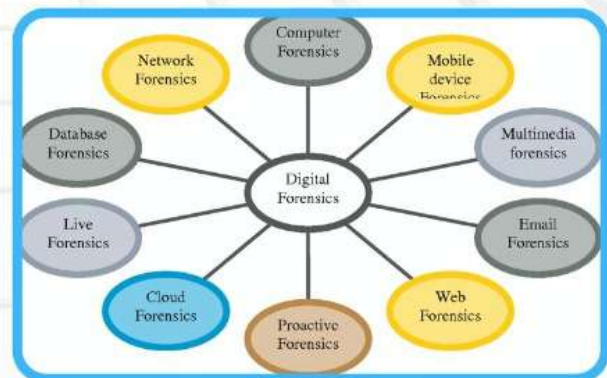
Digital Forensic

WATER QUALITY IDENTIFICATION AND ANALYSIS, CROP HEALTH MONITORING THROUGH **HYPER SPECTRAL SENSING USING UAV**