PEAS Framework for 20 AI Applications

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| S.No | AI Application | Performance Measure | Environment | Actuators | Sensors |
| 1 | AI-based Wildlife Monitoring System | Species tracked, poacher detection, battery efficiency | Forests, reserves, remote terrains | Alert system, camera pan/tilt, drone release | Motion sensors, camera traps, thermal imaging, GPS |
| 2 | AI-powered Traffic Signal Control | Traffic flow, congestion reduction, emergency handling | Urban intersections, roads | Signal lights, road signs | Traffic cameras, loop detectors, emergency vehicle sensors |
| 3 | AI in Precision Agriculture | Crop yield, water efficiency, pest detection | Farmlands, greenhouses | Irrigation, sprayers, tractors | Soil sensors, drones, satellite imagery, temp sensors |
| 4 | AI-based Fraud Detection in Banking | Detection accuracy, false alarm rate, transaction speed | Banking systems, ATMs | Block transaction, alert system | Transaction logs, behavior patterns, geo-tags |
| 5 | AI-based Mental Health Chat Support | User engagement, emotion detection accuracy | Mobile app, chat interface | Text output, emergency alerts | Text input, sentiment analysis, typing speed |
| 6 | AI in Disaster Prediction (Earthquake) | Prediction accuracy, false alarms, early warning time | Seismic zones, ocean beds | Sirens, alerts, public announcement | Seismographs, ocean buoys, satellites |
| 7 | AI-Driven Personal Finance Advisor | Investment returns, risk optimization, satisfaction | Mobile, finance databases | Dashboards, SMS/email notifications | Finance records, market data, user inputs |
| 8 | AI for Drug Discovery (Pharma) | Discovery time, cost, accuracy | Virtual lab, databases | Compound generators, simulation tools | Chemical structures, simulation outputs |
| 9 | AI in Archaeological Site Mapping | Artifact detection, mapping accuracy, speed | Excavation sites, historical landscapes | 3D model rendering, drone movement | Ground-penetrating radar, LIDAR, imagery |
| 10 | AI for Language Rehabilitation (Speech Therapy) | Progress rate, pronunciation accuracy, engagement | Clinics, home environment | Voice feedback system, dashboards | Microphone, speech engine, muscle tracker |
| 11 | Self Driving Car | Safe driving, minimal accidents, efficiency, comfort | Roads, traffic, pedestrians, signals, weather | Steering, accelerator, brake, horn, lights | Cameras, LIDAR, GPS, radar, speed sensors |
| 12 | Smart Vacuum Cleaner | Area cleaned %, battery usage, cleaning time | Home floors, furniture, pets, obstacles | Wheel motors, vacuum, brushes | Dirt sensor, bump sensor, IR, gyroscope |
| 13 | Medical Diagnosis System | Diagnosis accuracy, speed, patient outcome | Hospitals, patient data | Diagnosis display, suggest treatment | User input, symptoms, test results |
| 14 | Speech Recognition Assistant | Accuracy, transcription, response time, satisfaction | Noisy room, accents, speed variations | Display text, control devices, voice output | Microphone, waveform analyzer |
| 15 | Autonomous Drone Delivery | Timely delivery, collision avoidance, battery use | Airspace, buildings, weather | Rotors, delivery arm, camera tilt | GPS, accelerometer, altimeter, camera, proximity sensor |
| 16 | Spam Email Filter | Spam detection rate, false positive/negative rate | Email server, message DB | Tag/move/delete email | Email content, headers, metadata |
| 17 | Chess Playing AI | Win rate, move quality, game completion | Chessboard, opponent, rules | Move virtual pieces, suggest moves | Game state, opponent moves |
| 18 | Face Recognition System | Match accuracy, speed, false match rate | CCTV footage, face database | Grant/deny access, tag faces | Camera, image processor |
| 19 | Online Shopping Recommender | Click rate, sales conversion, satisfaction | E-commerce platform, user history | Recommend items, change UI | Clicks, views, ratings, browsing history |
| 20 | Machine Translation System | Translation accuracy, fluency, speed | Languages, documents, conversations | Display or speak translated text | Text/speech input, language model |