stm Drone Statechart - Basic

- Idle
- deploy()
- Flying
- Scan_area()
- Locating
  - take_picture
  - compute_urgency
- person_found()
- Waiting
  - broadcast_location
  - await_terrain_robot
- battery_low()
- rescue acknowledged()
- at_base
- Returning
  - battery_decrement
  - move_to_base

stm Drone Statechart - Extended

Idle

Flying

deploy()

scan_area

Locating

take_picture | compute_urgency | assess_health_status | calculate_priority

person_found()

Coordinating

broadcast_location | send_urgency_data | select_target_robot

message_sent()

Waiting

await_terrain_robot | monitor_robot_response | track_mission_progress

battery_low()

battery_low()

battery_low()

recharged()

at_base()

rescue_acknowledged()

battery_low()

Returning

battery_decrement | move_to_base | update_mission_status

battery_depleted()

OutOfBattery

stm Drone Statechart - Novel

Idle

deploy() / gnn_action_decision

Flying
- move_3d_gnn_optimized
- scan_environment_with_pattern_recognition
- battery_decrement_with_energy_management
- update_exploration_map_gnn_spatial_learning

scan_area() / gnn_evaluate_environment

Learning Assessment
- take_picture_gnn_image_analysis
- take_picture_gnn_image_analysis
- assess_health_status_gnn_evaluation
- calculate_priority_gnn_optimization
- extract_features_for_gnn
- update_person_graph_construction

assessment_complete() / gnn_coordination_strategy

Coordinating
- broadcast_location_gnn_optimized
- send_urgency_data_prioritized
- select_target_robot_gnn_assignment
- optimize_task_distribution_gnn

message_sent() / gnn_monitor_response

Waiting
- await_terrain_robot
- monitor_robot_response
- track_mission_progress
- maintain_communication_optimization
- learn_coordination_patterns

battery_low() / gnn_emergency_protocol

rescue_acknowledged() / gnn_mission_complete

battery_low() / gnn_emergency_protocol

Returning
- battery_decrement
- move_to_base_path_optimization
- update_mission_status_learning
- report_learning_data_sharing
- update_coordination_model_improvement

at_base() / gnn_update_model

recharged() / gnn_recovery_update

battery_depleted()

OutOfBattery

stm FirstAid Robot Statechart - Basic

stm FirstAid Robot Statechart - Extended

Idle

deploy()

WaitingForMission
- listen_for_signals
- maintain_readiness
- status_reporting

receive_mission_signal()

mission_cancelled()

MovingToTarget
- navigate_to_coordinates
- update_position

arrive_at_person()

AtPerson
- administer_first_aid
- assess_victim_condition
- send_completion_signal

battery_low()

battery_low()

kit_delivered()

battery_low()

Trigger

at_base()

Returning
- battery_decrement
- move_to_base
- mission_report

battery_depleted()

OutofBattery

stm FirstAid Robot Statechart - Novel

deploy() / gnn_action_decision

AdaptiveWaiting

| listen_for_signals_gnn_optimized | maintain_readiness_learning | status_reporting_predictive | mission_priority_assessment | resource_allocation_learning | battery_conservation_intelligent |

receive_mission_signal() / gnn_mission_optimization

mission_cancelled() / gnn_reallocation

LearningMovement

| navigate_to_coordinates_gnn_pathfinding | update_position_learning | terrain_difficulty_assessment | battery_decrement_optimized |

arrive_at_person() / gnn_victim_assessment

battery_low() / gnn_emergency_protocol

battery_low() / gnn_emergency_protocol

IntelligentRescue

| administer_first_aid_optimized | assess_victim_condition_gnn | send_completion_signal_intelligent | urgency_verification_gnn |

at_base() / gnn_experience_update

recharged() / gnn_recovery_learning

kit_delivered() / gnn_success_learning

battery_low() / gnn_emergency_protocol

Returning

| battery_decrement_prediction | move_to_base_path_optimization | mission_report_detailed | experience_sharing_gnn | performance_analysis_learning | coordination_feedback_loop |

battery_depleted() / gnn_failure_analysis

OutofBattery