BEGIN

// Data Collection Stage

DETERMINE number of actuators (p) and sensors (q)

CONTROL the AMS using conventional program code

EXPORT sensor and actuator signal data as matrices in a time series sequence

// Construction of LSTM Framework

INITIALIZE LSTM with four layers:

- Layer 1: Series input layer with input size q

- Layer 2: LSTM layer with hidden size n

- Layer 3: Sequence fully connected layer with output size p

- Layer 4: Regression output layer

// Training LSTM Network

SET LSTM network parameters

FOR i FROM 0 TO maximum iterations DO

PERFORM feed-forward computation

DETERMINE anticipated outcome

COMPUTE loss function

APPLY backpropagation

UPDATE weights and biases

END FOR

// Validation and Testing of LSTM

VALIDATE trained LSTM network

TEST trained LSTM network

// Operating Phase

LOAD trained LSTM network

WHILE (TRUE) DO

READ sensor signals and store in matrix Y\_A

DETERMINE control actions U\_H using LSTM

FILTER expected control actions U\_H

CONTROL AMS using control action U\_H

END WHILE

END