Matas Manawakul

ROBOTICS ENGINEERING STUDENT

Experience

AVATAR XPRIZE - FIBO XPRIZE

| The competition that aims to create an avatar system that can transport human presence to a remote location in real time. |

- Hardware Architecture Team

  Avatar Head
  - Control Avatar Head by an operator with HTC VIVE with Inverse Kinematics and PID control

  Avatar Arm
  - Simulation to verify the optimization of Avatar Arm with Matlab

  Avatar Base
  - State Estimator of Z-axis gyroscope sensor in IMU sensor (Kalman filter)
  - Low level control with Mbed OS for omnidirectional wheels

CATESIAN ROBOT CLASS PROJECT

| 4 DOF Cartesian Robot that can grab a rod and pass through a maze without touching the rails |

Robot modeling and Control
  - DC motor modeling
  - Parameters estimation of DC motor with Matlab/Simulink
  - PID Control Diagram / PID Tuning
  - Trajectory Planning

Image Processing
  - Use OpenCV to Capture field and remove almost rails in the field
  - Use Image Processing to enhance image to identify path for robot

For Matlab Scipt, Code :
  https://github.com/KarnMatas/Learning-adventure.git

BACHELOR DEGREE THESIS

| APPLICATION OF LOGICAL PROGRAMABLE DEVICE TO CONTROL OMNI TRICYCLE BALL BALANCING ROBOT |

Duties
  - Kinematics and Dynamics Modeling
  - Control Design
  - Simulation for verification and validation

Personal Profile

I am a third year student from The Institute of Field Robotics (FIBO), King Mongkut's University of Technology Thonburi. I am interested in Robotics especially Robot Modeling, Control and low-level programming.

Contact Details

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Notable Skills

- Low-level control Coding with c/c++ language
- Can using Matlab , Simulink and Simscape to Solve a problem related to robotics or Mathematics
- Intermediate python programming
- Can speaking and writing English for communication

Education

BACHELER DEGREE   2018 - PRESENT

The Institute of Field Robotics (FIBO), KMUTT, Bangkok
GPAX : 3.66

HIGH SCHOOL   2012 - 2017

TakhliPrachasan School, Nakhon Sawan
GPAX : 3.97