## DEVELOPMENT OF NEURAL NETWORK BASED MODELS TO CONTROL TEMPERATURE AND ESTIMATE COMPOSITION OF A DEBUTANISER COLUMN

## NASSER BIN MOHAMED RAMLI

## THESIS SUBMITTED IN FULFILMENT OF THE REQUIREMENTS FOR THE DEGREE OF DOCTOR OF PHILOSOPHY

FACULTY OF ENGINEERING
UNIVERSITY OF MALAYA
KUALA LUMPUR

Dedicated to Nor Azlina, Nur Najla Nur Najah and Nur Naira for their patience, love and support throughout the years