

# UNIVERSITY OF ALBERTA

*Certifies by this document to all whom it may concern that*

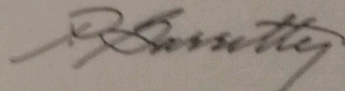
MENNATULLAH SIAM

*having completed all the statutory requirements  
has been granted the degree of*

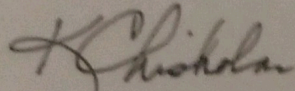
DOCTOR OF PHILOSOPHY  
in Computing Science

*and awarded all the rights and privileges pertaining to this degree.*

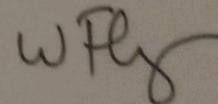
*Given at this university on the nineteenth day of November, two thousand and twenty-one  
in the one hundred and fifteenth year of the University of Alberta.*



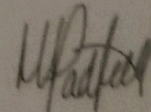
CHANCELLOR



CHAIR OF THE BOARD



PRESIDENT



REGISTRAR