



1 | the graduate

Name: Marat Sadykov

Student Number: 9312706

2 | the award

Name of Award: Master of Philosophy

Detail:

The Master of Philosophy is a postgraduate degree normally completed in one and a half years of full-time study or the equivalent part-time study. Admission requirements include completion of a bachelor degree, with or without Honours, with a specific level of achievement, or equivalent. Students complete a research thesis that is independently assessed by one internal and one external examiner. The language of instruction is English.

The Master of Philosophy is located at Level 9 of the Australian Qualification Framework.

The Australian Higher Education Graduation Statement is provided by Australian higher education institutions to graduating students on completion of the requirements for a particular higher education award. It provides a description of the nature, level, context and status of studies that were pursued by the individual named. Its purpose is to assist in both national and international recognition of Australian qualifications and to promote international mobility and professional recognition of graduates.

certification

Date: 17 December 2023

LEANNE HARVEY

Vice-President (Administration)
and University Registrar

3 | awarding institution

Queensland University of Technology (QUT) focuses on being 'the university for the real world'. It maintains close links with industry, and delivers professionally relevant courses with a balanced mix of theory and practical experience. Where appropriate, courses are accredited and reviewed by external professional bodies and industry associations. QUT was established by an Act of the Queensland Parliament in 1989 and is listed as an Australian University on the Tertiary Education Quality and Standards Agency's National Register of Higher Education Providers. The University's Commonwealth Register of Institutions and Courses for Overseas Students number is 00213J.

Additional information can be found at www.qut.edu.au

4 | graduate's academic achievements

Master of Philosophy

IF80 Version 1

Thesis Title:

Time-Series Machine Learning in Electrical Vehicles: Smart Battery Management through Neural-Network-Based State of Charge Prediction

Thesis Abstract:

This research was a step towards a new Battery Management System inside electric vehicles. It is based on using Machine Learning techniques and powerful Tensor capable devices to use Neural Networks to predict the accurate State of Charge of Lithium-Ion cells rather than applying traditional methods of battery capacity measurement. It is meant to prolong the utilisation of energy inside a vehicle by relying on the history of efficient driving behaviours and employing that information to model the capabilities of similar cells. This thesis investigated several published methods and proposed a novel approach, bringing higher accuracy results.

Units of Study

Unit Code	Unit Title	Grade	Description	Credit Points
Research Period 2, 2019				
IFT632.1	Thesis	S	Satisfactory	
6 Week Teaching Period - 6, 2019				
IFN001.5	Advanced Information Research Skills	5	Credit	4

Master of Philosophy

Course requirements completed on **03 November 2023**

Conferred on **17 December 2023**

Key to grading:

Grade	From Semester 1, 2009	From Semester 1, 1985
7	High Distinction	
6	Distinction	
5	Credit	
S	Satisfactory	
4	Pass	
3	Fail	Low Pass
S3	Not Applicable	Pass Supplementary
U	Unsatisfactory	
2	Fail	
S2	Not Applicable	Fail Supplementary
1	Low Fail	
K	Withdrawn - Failure	
A	Result Unfinalised	
SA	Supplementary Assessment	
DA	Deferred Assessment	
T	Assessment Continues	

Grade Point Average (GPA) is calculated from the grades obtained from semester one 1985 onwards and weighted by the credit points of the unit using the formula and assumption as described in the Manual of Policies and Procedures (MOPP) www.mopp.qut.edu.au

5 | description of the Australian higher education system

Introduction

The Australian higher education system consists of self-governing public and private universities and higher education institutions that award higher education qualifications.

The Australian Qualifications Framework

The Australian Qualifications Framework (AQF) is a single national, comprehensive system of qualifications offered by higher education institutions (including universities), vocational education and training institutions and secondary schools.



The AQF has 10 levels, each with defined criteria based on a taxonomy of learning outcomes. Higher education qualifications are placed between level 5 (the Diploma) and level 10 (the Doctoral Degree). The Bachelor Degree is at level 7. Each AQF qualification has a set of descriptors which define the type and complexity of knowledge, skills and application of the knowledge and skills that a graduate who has been awarded that qualification has attained, and the typical volume of learning associated with that qualification type. The full set of levels criteria and qualification type descriptors can be found by visiting www.aqf.edu.au.

The main AQF qualifications awarded by higher education institutions are Bachelor Degrees, Masters Degrees and Doctoral Degrees. There are also three qualifications at the sub-degree level: the Diploma, the Advanced Diploma and the Associate Degree. At the graduate level but below the Masters Degree are the Graduate Certificate and Graduate Diploma.

Level	Summary	Qualification Type
Level 1	Graduates at this level will have knowledge and skills for initial work, community involvement and/or further learning	Certificate I
Level 2	Graduates at this level will have knowledge and skills for work in a defined context and/or further learning	Certificate II
Level 3	Graduates at this level will have theoretical and practical knowledge and skills for work and/or further learning	Certificate III
Level 4	Graduates at this level will have theoretical and practical knowledge and skills for specialised and/or skilled work and/or further learning	Certificate IV
Level 5	Graduates at this level will have specialised knowledge and skills for skilled and/or paraprofessional work and/or further learning	Diploma
Level 6	Graduates at this level will have broad knowledge and skills for paraprofessional and/or highly skilled work and/or further learning	Advanced Diploma Associate Degree
Level 7	Graduates at this level will have broad and coherent knowledge and skills for professional work and/or further learning	Bachelor Degree
Level 8	Graduates at this level will have advanced knowledge and skills for professional highly skilled work and/or further learning	Bachelor Honours Degree Graduate Certificate Graduate Diploma
Level 9	Graduates at this level will have specialised knowledge and skills for research, and/or professional practice and/or further learning	Masters Degree
Level 10	Graduates at this level will have systematic and critical understanding of a complex field of learning and specialised research skills for the advancement of learning and/or for professional practice	Doctoral Degree

Admission

Requirements for admission to particular awards are set by higher education institutions and provide a range of routes for entry and only admit those students considered to have potential to complete an award successfully. Admission of school leavers to undergraduate awards is typically on the basis of the level of achievement in Year 12 secondary education, although some institutions and awards also use interviews, portfolios or demonstrated interest or aptitude. Most institutions also provide alternative entry provisions via bridging or foundation programs for mature age students or other special provisions, such as recognition of prior learning from previous study. Admission to post-graduate awards is generally based on the level of achievement in previous higher education studies and in most cases, admission to PhD awards is based on high achievement in a research Masters Degree or in a Bachelor Degree with first class honours or second class honours division A.

Quality

Quality assurance and stringent approval requirements for higher education institutions ensure that Australia has an international reputation for high quality education.

The Tertiary Education Quality and Standards Agency (TEQSA) was established on 30 July 2011 as a new national regulator and quality assurance agency for higher education. TEQSA is an independent body with the powers to regulate university and non-university higher education providers, monitor quality against standards.

From 29 January 2012 TEQSA assumed responsibility for registering and re-registering providers and accrediting and re-accrediting awards for higher education providers that do not have authority to accredit their own awards. At the time of registration, re-registration, accreditation and/or re-accreditation, TEQSA evaluates the performance of a higher education provider against the Higher Education Standards Framework. The Standards Framework comprises: Provider Registration, Category, and Course Accreditation Standards, and Qualification Standards (based on the AQF).

The Higher Education Standards Panel, which is independent from TEQSA, is responsible for developing and monitoring the Standards Framework.

TEQSA also undertakes quality assessments of individual providers or reviews issues within the sector across a cohort (thematic reviews). These reviews help to identify sectoral good practice, guide sectoral quality enhancement and inform policy and research.

TEQSA's primary aim is to ensure that students receive a high quality education at any of Australia's higher education institutions.

All higher education institutions receiving Australian Government financial support must meet quality and accountability requirements that are set out in the *Higher Education Support Act 2003*. The Australian Government also uses a range of tools to measure and monitor the quality of outcomes, while the interests of international students are protected by the *Education Services for Overseas Students Act 2000* and the Commonwealth Register of Institutions and Courses for Overseas Students (CRICOS), providing tuition assurance and ensuring that institutions listed on CRICOS meet defined minimum standards.