Australian
National
University

INDEPENDENT STUDY CONTRACT
PROJECTS

Note: Enrolment is subject to approval by the course convenor

SECTION A (Students and Supervisors)

UniID: ___u6342277_____

SURNAME: ___Pan_____ FIRST NAMES: ____Shidong_____

PROJECT SUPERVISOR (*may be external*): ____Dongwoo Kim_____

FORMAL SUPERVISOR (*if different, must be an RSSCS academic*): ___ Dongwoo Kim _____

COURSE CODE, TITLE AND UNITS: _____Advanced Computing Project COMP4560 12units_____

COMMENCING SEMESTER ☑ S1 ☐ S2 YEAR: _2019_ Two-semester project (12u courses only): ☑

PROJECT TITLE:

Embedding Heterogeneous: Modelling a Citation Network

LEARNING OBJECTIVES:

In this project, we are aiming to implement a network embedding method for heterogeneous network. Especially, we will focus on modelling academic papers including citation network which has at least two different types (publication and authorship) of nodes in a network. We will first learn a recent approach for network embedding method such as node2vec and deepwalk, and then extend the existing work for the heterogeneous network. For the final report, I will also study scientific writing method

PROJECT DESCRIPTION:

Citation network has been extensively studied to uncover how evolutionary ideas have been developed so far. However, most of the existing work based on traditional network modelling algorithms which cannot be scaled over contemporary academic corpus including multi- and inter-disciplinary research. In this work, we aim to develop a network embedding method which can model heterogeneous network such as a citation network. We first learn the basic idea of network embedding using a well-known embedding method, word2vec, and then explorer network specific embedding methods such as node2vec and deepwalk. In the end, papers will be embedded into a multi-dimensional Euclidean space, which can be further utilised for follow-up tasks such as finding/recommending relevant papers. The new model will be evaluated via link prediction with missing citations.

ASSESSMENT (as per the project course's rules web page, with any differences noted below).

Assessed project components:	% of mark	Due date	Evaluated by:
Report: style: __research report_____ (e.g. research report, software description...,)	(min 45 def 60) 60		(examiner)
Artefact: kind: ___software_____ (e.g. software, user interface, robot...,)	(max 45, def 30) 30		(supervisor)
Presentation :	(10)		(course convenor)

MEETING DATES (IF KNOWN):

STUDENT DECLARATION: I agree to fulfil the above defined contract:

........涛土夰..   01 /03/2019
Signature   Date

SECTION B (Supervisor):

I am willing to supervise and support this project. I have checked the student's academic record and believe this student can complete the project. I nominate the following examiner, and have obtained their consent to review the report (via signature below or attached email)

....   28 / 02 / 2019
Signature   Date

Examiner:
Name: .....JEFFREY/FISHER........ Signature ....
(Nominated examiners may be subject to change on request by the supervisor or course convenor)

REQUIRED DEPARTMENT RESOURCES:

SECTION C (Course convenor approval)

....   1/3/19
Signature   Date