# INDEPENDENT STUDY CONTRACT
# HONOURS

*Note: Enrolment is subject to approval by the projects co-ordinator*

## SECTION A (Students and Supervisors)

UniID:          u6050672

SURNAME:     Bui-Nguyen                    FIRST NAMES:    Thien

PROJECT SUPERVISOR   (*may be external*):     Dr Zhenchang Xing

COURSE SUPERVISOR (*a RSCS academic*):        Dr John Slaney & Prof Jochen Renz

COURSE CODE, TITLE AND UNIT:             COMP4550 Advanced Computing Research Project (24 units)

**SEMESTER**     ☒ S1  ☒ S2  YEAR: 2019

**PROJECT TITLE:**

   Locating API Misuse Examples in GitHub

**LEARNING OBJECTIVES:**
- **Extract and pre-process data for text analysis**
- **Apply natural language processing methods to link formal and informal text**
- **Write a technical report describing techniques and findings of the project**

**PROJECT DESCRIPTION:**

Technical API documents such as the Android Developers Documentation can have a significant amount of API caveats. Disregard of these caveats can result in numerous software bugs for the developers using the API. Furthermore, some caveats are particularly complex and hard for new developers to understand.
This project attempts to research the effectiveness of using natural language processing methods to locate API misuse in GitHub data and identify the associated API caveat/s. This can be used to support developers in applying correct practices with regards to the API and understanding the caveats involved.

Learning goals and processes of the project include:
1. Investigating and understanding the formats of textual data on GitHub
2. Pre-processing the GitHub data and finding methods to extract key information from that data
3. Designing a text embedding model that can be used to match GitHub data with caveats from technical API documents
4. Analysing the data collected and using statistical methodology to evaluate matching results
5. Writing a project report

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

| Assessed project components: | % of mark | Due date | Evaluated by: |
|---|---|---|---|
| Thesis | 85 (85%) | | |
| Presentation | 10 (10%) | | |
| Critical Feedback | 5 (5%) | | |

MEETING DATES (IF KNOWN):

STUDENT DECLARATION:
I agree to fulfil the above defined contract

......................................................      26/02/19
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 reviewers and have obtained their consent to review the completed thesis (through signature or attached email)

......................................................      26/02/2019
Signature                      Date

**Reviewer 1:**
Name: ..........................................      Signature...........................

**Reviewer 2:**
Name: ..........................................      Signature...........................

*Nominated reviewers may be subject to change on request by the supervisor.

**REQUIRED DEPARTMENT RESOURCES:**

# SECTION C (Course coordinator approval)

......................................................      ..............................
Signature                      Date

# SECTION D (Projects coordinator approval)

......................................................      ..............................
Signature                      Date