Master of Robotics and AI (EN52)

ENN595-1 Project Students   
Semester Two 2023

**Investigation via the Engineering Literature  
Assessment 1a**

**Submit:** Electronically, via Canvas Assessment Upload by Friday 25 August (week 5)

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**Student Name:** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Student No.: n** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Research Topic Title:** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Project Supervisor:** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Assessment Tasks**

* Draw a concept map of your research topic;
* Translate those key concepts into a search statement;
* Search for relevant engineering literature;
* Identify authoritative, reputable and reliable information sources on your research topic;
* Submit a summary analysis of three key references;
* Identity and categorize trends found in the literature and explain what impact literature findings have had on the design of your project;
* Locate 3 published authorities (acknowledged experts) in your field of research;
* Compile a reference list of the most useful literature on your topic.

**This assessment item will be marked by your project supervisor.**

On completion of this assessment, you should have formed an information research strategy that will allow you to discover evidence based scholarly, trade and professional literature that will underpin your research project proposal.

Guidance is available from the QUT [Library web](http://www.library.qut.edu.au) site, including relevant library [**Researching by study area**](https://libguides.library.qut.edu.au/getstarted/studyarea/engineering) guides.

Advice is available from the HiQ service point (V block level 3), [Online Help](http://www.library.qut.edu.au/help/) (Chat or email) or consultation (by appointment) with the electrical engineering librarian.

1. **Concept Map**

Firstly, describe the overall project objective and list any questions to be investigated. Include any scope considerations, for example, location or time based.

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Concept maps are graphical tools that organize knowledge and assist you to clarify the concepts and show the relationship between concepts. For further information click [here](https://libguides.library.qut.edu.au/engcap/concept).

Use the space below to develop your own concept map.

***Now take the terms and phrases from your concept map to develop and refine a search strategy.***

1. Develop a search statement

Separately identify the **key concepts** you wish to search for. Click [here](https://libguides.library.qut.edu.au/engcap/plansearch) and [here](https://libguides.library.qut.edu.au/engcap/Boolean) for further information.

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| --- | --- | --- | --- | --- |
| **1st Concept** | AND | **2nd Concept** | AND | **3rd Concept** |
|  |  |  |

Now list any synonyms (words with the same or similar meaning) that may also retrieve relevant information. List here any spelling variations e.g., colour / color ; tire / tyre ; harbour / harbor.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| OR | **Synonyms** | AND | **Synonyms** | AND | **Synonyms** |
|  |  |  | OR |

As an alternative to the Boolean **OR** search operator you can (where appropriate) opt to truncate a search keyword. Apply the keyword truncation symbol (usually an asterisk **\***)to the stem of a word to simultaneously retrieve the plural form, plus synonymous variant right-hand grammatical endings of your search keyword.

*e.g., spectr\* will retrieve spectra, spectral, spectrometry, spectroscopy, spectrum, spectrums.*

List those of your search keywords than can be usefully truncated in the box below:

*(Note that if the database supports Autostemming, as Compendex and Inspec do, and is enabled, truncation is not required.)*

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Structure your search statement using **Boolean** search logicoperators **(AND, OR, NOT).**

Use parentheses ( ) so that you can order a **keyword** search. Enclose a literal text string in inverted commas to force an exact key **phrase search**. For example:   
("artificial intelligence" OR "fuzzy logic") AND (power AND (distribution OR transmission))

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| Remember: *(If the database supports Autostemming, as Compendex and Inspec do, and is enabled, truncation is not required.)* |

1. Search for relevant engineering literature

Name the most useful literature database searched: Identify this database (and if applicable, its delivery platform). For example: For example: QUT Library Search; **Inspec** (on Engineering Village); Compendex (on Engineering Village), Web of Science, Scopus , Google Scholar.

Database Name:

Database Platform:

Comment on the scope of your chosen database and why it proved to be of high value to your literature search:

1. **Identify relevant and authoritative information sources**

List some key information sources applicable and relevant to your research topic. Attempt to include at least one, in each of the following three categories:

**a. Peer reviewed journal titles / Conference publications** – [eng. capstone guide](http://libguides.library.qut.edu.au/engcap) will assist

**b. Texts / Handbooks / Encyclopaedias –** [eng.capstone guide](http://libguides.library.qut.edu.au/engcap) will assist

**c. Standards (or regulations) / Patents** - finding [Standards](https://www.library.qut.edu.au/search/howtofind/standards/) & [Patents](http://libguides.library.qut.edu.au/patents) guides will assist

1. **Evaluate and analyse three (3) key references**

From your search results (typically these will be journal articles or conference papers or book chapters) you may use the template below to evaluate and analyse key references.

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| Reference # 1 -- Use IEEE Style (or an alternative style agreed with your supervisor) |
| Citation: |
| *How does this paper relate to my topic?* |
| *What key findings are reported?* |
| *How does this paper relate to other work in the field?* |
| *Interpret important figures / tables / illustrations (cite the page number).* |
| *List other references to investigate further (a good paper can often lead to another).* |
| *General notes / observations on this paper’s attributes.* |

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| Reference # 2 – Use IEEE Style (or an alternative style agreed with your supervisor) |
| Citation: |
| *How does this paper relate to my topic?* |
| *What key findings are reported?* |
| *How does this paper relate to other work in the field?* |
| *Interpret important figures / tables / illustrations (cite the page number).* |
| *List other references to investigate further (a good paper can often lead to another).* |
| *General notes / observations on this paper’s attributes.* |

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| Reference # 3 -- Use IEEE Style (or an alternative style agreed with your supervisor) |
| Citation: |
| *How does this paper relate to my topic?* |
| *What key findings are reported?* |
| *How does this paper relate to other work in the field?* |
| *Interpret important figures / tables / illustrations (cite the page number).* |
| *List other references to investigate further (a good paper can often lead to another).* |
| *General notes / observations on this paper’s attributes.* |

1. **Literature synthesis and impact on your project design**

***Categorize major findings (issues, trends or themes) apparent in this your preliminary investigation of the literature.***

***Describe and explain what impact these findings might have on the direction, focus or scope of your research project.***

1. **Published authorities**

Name up to three (3) published authors who are clearly expert on your topic. State why you believe they are expert. You can usually judge this from the extent and quality of material they have published. If it is given, list their latest institutional affiliation (i.e., where they work). Your expert may have a professional web page that lists their recent publications, their experience and engagement with the research question / problem.

1. **Reference List**

Cite using IEEE Style (or an alternative style agreed with your supervisor) at least eight (8) of the most relevant and useful references you have read on your project topic.