

Critical Inquiry Topics Semester 1 AY2026/2027

Project IDs	Project Titles	Supervisors
AC-01	Analysis of communities	Alton Chua
AC-02	Analysis of user-generated content	Alton Chua
AC-03	Deception on social media	Alton Chua
AC-04	Rumors and rumor denials	Alton Chua
BK-01	Leading through stories	Brenda Lee
BK-02	Leadership through storytelling	Brenda Lee
BK-03	Storytelling in the AI race	Brenda Lee
BK-04	Organisational Practices	Brenda Lee
BK-05	Storytelling on Video	Brenda Lee
BK-06	Leadership in Literature	Brenda Lee
BK-07	Reading in Leadership	Brenda Lee
BL-01	The Social Context of Libraries and Librarians	Brendan Luyt
BL-02	Understanding Wikipedia as a social technology	Brendan Luyt
BL-03	Domain analysis of academic disciplines or sub-disciplines	Brendan Luyt
BL-04	The role of librarians and information professionals as cognitive authorities in an age of misinformation	Brendan Luyt
BL-05	The social and historical context of disinformation campaigns	Brendan Luyt
CK-01	Knowledge graph or graph database application development using Neo4j	Chris Khoo
CK-02	Information extraction using generative AI technology to populate a knowledge graph	Chris Khoo
DG-01	Understanding perceptions of deepfakes	Dion Goh

Project IDs	Project Titles	Supervisors
DG-02	Generative AI in work and education contexts	Dion Goh
DG-03	AI literacy – Perceptions and Influential Factors	Dion Goh
DG-04	Misinformation in Immersive Environments	Dion Goh
FT-01	The Value and Impact on a Business' revenue through the use of Digital Proximity Solutions	Francis Tay
FT-02	Customer Intelligence collection methods and analysis	Francis Tay
FT-03	Digital Transformation	Francis Tay
FT-04	Data Analysis in the Workplace	Francis Tay
FT-05	Data Analytic Tools	Francis Tay
FT-06	Intelligent Automation Solutions and Tools	Francis Tay
FT-07	Marketing and Agentic AI	Francis Tay
FT-08	Data Management and Governance in the age of Artificial Intelligence (AI)	Francis Tay
HO-01	Generating Knowledge Graphs from peer-reviewed articles using Large Language Models	Hamzah Osop
HO-02	Analysing edges/relations/triples of Knowledge Graphs or between unconnected entities in KGs	Hamzah Osop
HO-03	Latent topic discovery in Knowledge Graphs	Hamzah Osop
HO-04	Automating search query terms to verify GenAI content	Hamzah Osop
HO-05	Verifying multi-modal health-related information from social media platforms	Hamzah Osop
HO-06	Analysing the spread of information through information propagation model	Hamzah Osop
JP-01	Defending Adversarial AI Attacks	Jonathan Pan

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JP-02	Security Audit using LLM	Jonathan Pan
JP-03	Teaching Aids with Gen AI	Jonathan Pan
JP-04	Assistive Technology with Gen AI	Jonathan Pan
JS-01	Perception and use of libraries	Joanna Sin
JS-02	Everyday life information behaviour	Joanna Sin
JS-03	Information inequality: Status, effects, and remedies	Joanna Sin
JS-04	Trending topics in Library and Information Science	Joanna Sin
LCK-01	Porting the arXif dataset into Neo4j	Lee Chu Keong
LCK-02	Porting the movies dataset into Neo4j	Lee Chu Keong
LCK-03	Vertical farming: A bibliometric analysis	Lee Chu Keong
LCK-04	Storage of Family Tree Information Using Neo4J	Lee Chu Keong
LCK-05	Storage of Research Publications Using Neo4J	Lee Chu Keong
LCK-06	Constructing a Web Front-End for a Movie Community based on Neo4j database	Lee Chu Keong
LCK-07	An Investigation into the Career Anchors of Postgraduate Students	Lee Chu Keong
LCK-08	Bibliometrics on the publications of health communication	Lee Chu Keong
LCK-09	Storage and visualisation of bibliographic data using Neo4J	Lee Chu Keong
LCK-10	A Bibliometric Analysis of Knowledge Management Research Papers	Lee Chu Keong
LCK-11	Developing a Neo4J Database and Frontend for Researchers in Health Communication	Lee Chu Keong
LCK-12	Natural Language Processing	Lee Chu Keong
LCK-13	Bibliometric Analysis and Topic Modelling of Two AI Journals	Lee Chu Keong
LCK-14	An Analysis of the Abstracts of an Academic Journal using Topic Modelling	Lee Chu Keong
LCK-15	Social Capital and Knowledge Transfer	Lee Chu Keong

Project IDs	Project Titles	Supervisors
LCS-01	Understanding Cognitive Offloading in AI-Enabled Learning	Lee Chei Sian
LCS-02	Exploring digital nudging	Lee Chei Sian
LCS-03	Understanding information practices in the transitions to university and workplace	Lee Chei Sian
LCS-04	Examining the online information environment for neurodivergent learners	Lee Chei Sian
LGP-01	Sustainability informatics in organisations	L. G. Pee
LGP-02	Use of generative artificial intelligence (AI) in organisations	L. G. Pee
LGP-03	Design principles for mobile games	L. G. Pee
LGP-04	Design principles for information systems	L. G. Pee
LGP-05	Perceptions of emerging technologies: topic modeling and sentiment analysis	L. G. Pee
LGP-06	Understanding older adults' information behavior	L. G. Pee
LT-01	Exploration of Multimodal Embeddings	Luke Tan
LT-02	Study on Context Engineering	Luke Tan
NJC-01	Fake News Detection on social media	Na Jin Cheon
NJC-02	Stance Detection of Social Media Content	Na Jin Cheon
NPS-01	Understanding the library trends in post-pandemic period	Nirmal Prabu S/O Sangar
NPS-02	Ensuring Accessibility in Libraries: Strategies and Tools for Providing Equitable Access to Information and Services	Nirmal Prabu S/O Sangar
RSD-01	AI-Enabled Knowledge Management in Humanitarian and Crisis Response Organizations	Rajesh Singh Dhillon
RSD-02	Tacit Knowledge, Organizational Learning, and Knowledge Retention in the Future of Work	Rajesh Singh Dhillon
RSD-03	The Future Ready Knowledge Value Chain for Organizational Learning and Resilience	Rajesh Singh Dhillon
RSD-04	Bridging Knowledge Management and Content Management in Organizations	Rajesh Singh Dhillon
RSD-05	Operational DEI in Knowledge Management: Designing Inclusive Knowledge Systems	Rajesh Singh Dhillon

Project IDs	Project Titles	Supervisors
RSD-06	Building a Community-Driven KM Knowledge Base for Global Practitioners	Rajesh Singh Dhillon
RSD-07	Knowledge Management for Mitochondrial Disease and Healthcare Information Ecosystems	Rajesh Singh Dhillon
RSD-08	Crowdsourced Knowledge, Informal Learning, and Digital Communities on social media	Rajesh Singh Dhillon
RSD-09	Knowledge Management as a Service for Public Policy, Digital Government, and Conservation	Rajesh Singh Dhillon
RSD-10	Knowledge Management in Accounting and Tax Management Agencies	Rajesh Singh Dhillon
VH-01	The Impact of Generative AI on Business Decision-Making	Vaidhyanathan Hariharan
VH-02	Low-Code/No-Code Platforms: Empowering Citizen Developers and Redefining IT Roles	Vaidhyanatha Hariharan
VH-03	Analysis of Large Dataset Using Polars Open-Source Library	Vaidhyanatha Hariharan
VH-04	Blockchain for Supply Chain Transparency and Traceability	Vaidhyanathan Hariharan
VH-05	Evaluating the Effectiveness of DevOps Practices in Modern Software Teams	Vaidhyanathan Hariharan
VH-06	Cloud-Native Architectures and Their Impact on Information Systems	Vaidhyanathan Hariharan
VZ-01	Disability and Technology	Victor Zhuang

AC-01: Analysis of communities

This project requires students to analyze the relationship patterns among members of an online community. Members therein may transcend geographical and cultural boundaries but are bound together to pursue mutual goals or interests. The goal of this project is to study how members are brought together, and how they co-create content for the community. Students undertaking this project need to be conversant with the use of a web crawler.

AC-02: Analysis of user-generated content

The advent of Web 2.0 has promoted active user participation. Users can now easily contribute their own content, as well as comment on others'. This project requires students to collect and analyze user-generated content. The goal is to identify themes in the content and examine the interaction patterns among users. Students undertaking this project need to be familiar with web crawling and content analysis.

AC-03: Deception on social media

Deceptions on social media have become increasingly prevalent. This project seeks to better understand the ways in which deceptions present themselves, and how users can fall prey into these deceptions. Students undertaking this project need to be familiar with basic statistical techniques.

AC-04: Rumors and rumor denials

With the rise of the Internet, false rumors are ubiquitous. As a way to combat falsehood, some users and organizations develop rumor denial messages. For rumor denials to be effective, they must be shared. This project studies the factors which affect the virality of rumor denials. Students undertaking this project need to be familiar with basic statistical techniques.

BK-01: Leading through stories

Howard Gardner says that every great leader is a great storyteller. Much of this great storytelling skill is evident in the speeches of the great leader. In this project, students will select a notable woman leader in business or in politics, and study her speeches over the course of her leadership. The goal of the study is to determine the extent of the leader's story use, uncover the types of stories that the leader tells, and if possible, examine the effects of story choice on leadership.

BK-02: Leadership through storytelling

Howard Gardner says that every great leader is a great storyteller. Much of this great storytelling skill is evident in the way the great leader communicates, whether orally or in writing or in some other form. In this project, students will select a notable leader, whether in business or in politics, and study his various modes of communication in the context of his leadership. The goal of the study is to determine the leader's use of storytelling in his leadership.

BK-03: Storytelling in the AI race

Howard Gardner says that every great leader is a great storyteller. Much of this great storytelling skill is evident in the way the great leader communicates, whether orally or in writing or in some other form. In this project, students will select two tech leaders in the AI race, and study their

various modes of communication in the context of leadership in AI. The goal of the study is to compare/contrast the leaders' use of stories and uncover the types of stories that they tell.

BK-04: Organisational Practices

This project will attempt to unravel the patterns of business that lead to the longevity of an organisation. Students keen on this project will select a group of companies that are at least a century old to determine how they are built to last.

BK-05: Storytelling on Video

Students keen on this project will take a story filmed on video that has attracted a significant amount of traffic, and analyse the attitudinal response of viewers to the story from the comments posted on major social media platforms. The goal of the project is to determine story impact and uncover storytelling strategies used in the video that have contributed to its virality, and if possible, measure the subjective effect of the emotional value of the story on the viewers in objective terms.

Students can select more than one video on a particular topic.

N.B. The videos that have already been worked on in previous CI projects are The Wave, Second Uncle, Escape from the British Museum, and Successor.

BK-06: Leadership in Literature

According to Shoup and Hinrichs (2020), great literature can serve as tutors and mentors in the ways of leadership, equipping leaders and managers with the knowledge and skills to navigate the drama of leadership and engage in meaningful sensemaking to help organizations thrive. The plot and characterizations in novels, novellas, and short stories can act as simulations of real-world situations, fostering empathic growth and prosocial behaviour in real-world interactions, equipping readers to properly and adequately handle the often-tangled knot of real-life problems and personalities and improve their social-inference skills.

Students keen on this project will read fiction drawn from the canon of great literature, and elicit key insights useful for effective, empathetic, and ethical leadership.

BK-07: Reading in Leadership

Harry Truman, the 33rd President of the United States, says that not all readers are leaders, but all leaders are readers. This project will survey speeches made by political or business leaders who profess or are well-known to be voracious readers to locate indications of reading activities. The goal of the project is to determine if leaders demonstrate their relationship with reading through their speechmaking.

BL-01: The Social Context of Libraries and Librarians

Libraries and librarians are integral parts of a wider social landscape which shapes and filters their image, policies and general discourse. This project would see students examine some aspect of the relationship with libraries, past or present, and this wider environment.

BL-02: Understanding Wikipedia as a social technology

Wikipedia is much maligned in information studies circles as an inaccurate and even dangerous source of information. However, those studies which have been done suggest that its accuracy is comparable to more traditional encyclopedias. What is perhaps of more interest is the social dynamics of the organization as it represents a novel and collective approach to the dissemination of knowledge. Students undertaking projects in this area would examine, with the aid of the instructor, various aspects of these dynamics.

BL-03: Domain analysis of academic disciplines or sub-disciplines

Knowledge is generated by people working within various disciplinary traditions. The study of these traditions is important in order to develop a deeper theoretical and practical understanding of how people look for and use information. The domain analytic approach is one way to study the knowledge traditions of a discipline. In this project students would apply this approach to particular academic disciplines or sub-disciplines.

CK-01: Knowledge graph or graph database application development using Neo4j

Student to propose a knowledge graph or graph database application--to develop using Neo4j graph database software and Web technologies.

Requirement: K6307 Organisation of Knowledge will be helpful but not mandatory.

CK-02: Information extraction using generative AI technology to populate a knowledge graph

One challenge of developing knowledge graph applications is that the knowledge graph is usually developed manually. This project will explore how generative AI technology can be used for extracting information to populate a knowledge graph.

Requirement: A text mining course taken previously or concurrently
Research methods may include interviews, surveys and experiments.

DG-01: Understanding perceptions of deepfakes

This project investigates deepfake videos. Studying deepfakes is important as people become more dependent on various online information services and could fall prey to misinformation. This project will study how people perceive and respond to deepfakes. Topics include but are not limited to: (1) multimodality and its influence on perceptions of deepfake videos; (2) realism of deepfakes and AI-generated video and its influence on people's perceptions; (3) use of LLMs to teach people about deepfakes.

Research methods may include interviews, surveys and experiments.

DG-02: Generative AI in work and education contexts

Given the increasing popularity and advancement of generative AI (GAI) systems like ChatGPT, Gemini, and others, there are concerns about how these technologies will impact people's lives and livelihoods. This project aims to investigate how people perceive generative AI in terms of benefits and risks across work, study, home and/or leisure contexts. Topics include but are not limited to: (1) use of GAI in learning contexts; (2) biases associated with GAI; and (3) information seeking and verification practices. Both qualitative (e.g. interviews) and quantitative (e.g. surveys) data collections methods are possible.

DG-03: AI literacy – perceptions and influential factors

Given the rise of artificial intelligence (AI) in many segments of society, it is important for people to gain AI literacy skills. Possible projects include but are not limited to: (1) AI literacy and how they differ among age groups, (2) anxiety about AI and mitigating factors; and (3) factors influencing motivations to learn AI. Both qualitative (e.g. interviews) and quantitative (e.g. surveys) data collections methods are possible with this project.

DG-04: Misinformation in immersive environments

Immersive environments refer to virtual/online spaces where people can create and explore with other people. Other terms include virtual or mixed reality and the metaverse. The technology is potentially useful but concerns about safety and wellbeing have been raised by researchers, end-users and policymakers. One critical aspect involves misinformation. While there is much research about misinformation in other platforms such as social media, little is known about how misinformation is represented in immersive environments. The goal of this project is to investigate the types of misinformation is found in immersive environments and how it is presented to users. Research methods may include interviews and surveys.

Other possible topics include identify possible harms in relation to personal safety among different groups (e.g. children or females), how to encourage safety and wellbeing, and proposing types of measures that could be taken.

FT-01: The Value and Impact on a Business' revenues through the use of Digital Proximity Solutions

Students will explore the various ways that businesses can use digital proximity solutions for marketing, customer service, etc. The students will compare how businesses in different markets or sectors approach the use of such technologies to have a positive impact on their business revenues.

FT-02: Customer Intelligence collection methods and analysis

Students will look at the array of ways to gather customer intelligence across the various customer touch points. The focus can be on Business-to-Business (B-to-B) or Business-to-Customer (B-to-C) business models. Students would develop a framework on what would be a good way to collect customer intelligence for different types of business models.

FT-03: Digital Transformation

Students will research how companies are transforming themselves, if at all. The focus is on the motivation, initiatives and outcomes of companies that choose to digitally transform their business. Through secondary research of companies that have digitally transformed themselves, students will come up with a framework of how to initiate and implement digital transformation in a business.

FT-04: Data Analysis in the Workplace

Students will research into data analysis activities in businesses. The focus is on what is being done and by whom in the organization; and the tools, software and application used. The objective is to better understand the job skills (hard and soft) needed by employees today and in the future.

FT-05: Data Analytic Tools

Students will do comprehensive research on the tools available in the market that can be used to conduct data analysis. The objective is to come up with an unbiased toolkit list that can be used by companies for the varying data analysis done across the different departments/functional lines.

FT-06: Intelligent Automation Solutions and Tools

Students will research the extent of interest and use of Intelligent Automation solutions in business operations. The focus will be on the awareness, interest and use of solutions and tools like Robotics Process Automation (RPA), Keyboard Automation, WebApps, Virtual Reality (VR), Augmented Reality (AR), Robots, Generative AI, Agentic AI, etc. Students will write-up case examples as a means of understanding intelligent automation and its impact on business operations.

FT-07: Marketing and Agentic AI

Students will explore the evolving relationship between modern marketing practices and the increasing use of autonomous artificial intelligence systems. Students will also look into how business and organizations can leverage on Agentic AI's transformative potential and manage the governance challenges of integrating Agentic AI into marketing ecosystems.

FT-08: Data Management and Governance in the age of Artificial Intelligence (AI)

Students will explore how organizations can effectively manage and govern data in an era where artificial intelligence amplifies both the value and the risks of information. The study will look into how data governance frameworks – covering ownership, stewardship, transparency, and security – can enable innovation while safeguarding ethical standards and societal interests.

HO-01: Generating Knowledge Graphs from peer-reviewed articles using Large Language Models

This project proposes the generation and evaluation of Knowledge Graphs from Large Language Models. Students will investigate how LLM can be used to extract medical information/entities from a repository of literature, and its accuracy.

HO-02: Analysing edges/relations/triples of Knowledge Graphs or between unconnected entities in KGs

New information is constantly generated and needs to be extracted and populated into existing KGs. In this project, students are required to generate KGs from a repository of medical corpus and explore how new information can be populated into existing KGs.

HO-03: Latent topic discovery in Knowledge Graphs

Topic modelling can be applied to Knowledge Graphs to uncover latent semantic structures, group related entities or subgraphs, and enhance clustering, recommendation and summarisation tasks. In this project, students will apply topic modelling techniques to uncover hidden themes in KGs for subgraph summarisation.

HO-04: Automating search query terms to verify GenAI content

Often, responses from GenAI tool like ChatGPT, Gemini or Copilot are long-winded and may hallucinate. To verify if such responses are accurate, users need to verify against reputable resources for its authenticity. In this project, students will apply text-mining techniques to extract core concept from GenAI output into concise, keyword-rich phrases that can be formulated into searchable queries.

HO-05: Verifying multi-modal health-related information from social media platforms

Social media platforms like YouTube, X, Instagram and TikTok, are often used to disseminate health-related information due to its rich mode of interaction. However, some information sources are questionable, and its accuracy needs to be verified. In this project, students will explore the transformation of multi-modal content into Knowledge Graphs for verification.

HO-06: Analysing the spread of information through information propagation model

Small enterprises often lack direct access to mass audiences and rely on multiple social media tools to generate reach. In this project, students investigate the gap between information producers and consumers, such as through an Information Propagation model, to increase the spread of information to the wider public.

JP-01: Defending Adversarial AI Attacks

This project studies and evaluates techniques or solutions used to protect AI models from a specific adversarial attack technique. The project entails a comprehensive and in depth paper survey and technical evaluation of defensive solutions to deal with specific adversarial technique. Programming and knowledge of artificial intelligence algorithms will be the prerequisites.

JP-02: Security Audit using LLM

This project involves the development of audit tools that perform cyber security audit using Large Language Models (LLM). Working prototypes and academic report are the expected deliverables for this project. Some knowledge of cyber security will be the prerequisites. The project will provide an opportunity to learn about prompt engineering with LLM.

JP-03: Teaching Aids with Gen AI

This project explores how Gen AI could be used as teaching aids to educators. A comprehensive literature survey is to be done and a novel application prototype in Gen AI is to be developed. Coding experience in UX and AI will be advantageous. The project will provide an opportunity to learn about developing a Gen AI application.

JP-04: Assistive Technology with Gen AI

This project explores how Gen AI could be used to develop assistive technology solution to overcome specific disability. A comprehensive literature survey is to be done and a novel application prototype in Gen AI is to be developed. Coding experience in AI will be advantageous. The project will provide an opportunity to learn about developing a Gen AI application

JS-01: Perception and use of libraries

Nowadays, individuals often turn to sources beyond libraries for their information needs. This project aims to study the perception and use of libraries by a specific group (e.g., adolescents, parents, etc.). Researchers may also focus on a particular type of library (e.g., public, school, or academic libraries). The goal is to identify how libraries can improve and promote their services. The study may examine: How do individuals perceive and use libraries and other sources such as social media platforms? What library services are most valuable to the user group? What services do users want the library to provide or enhance? What are the demographic, cognitive, affective and contextual factors that contribute to use or non-use?

JS-02: Everyday life information behaviour

The advent of social media and mobile communication has led to an explosion of information being disseminated through many channels. How do individuals stay informed about daily happenings and topics of interest to them? Researchers may focus on a specific demographic group and investigate some of the following areas: Everyday information needs and information barriers; information behaviour on social media; information overload; credibility assessment; or factors affecting users' everyday life information behaviour.

JS-03: Information inequality: Status, effects, and remedies

Recent technological development has not mitigated the unequal access and use of information resources among different user groups. It may even have exacerbated the digital and information divide. In this project, researchers may study specific demographic groups, types and channels of information (e.g., health information, printed materials, the Internet), and geographic scopes. The

study may focus on: mapping and charting the status and changes in information inequality; identifying the factors that contribute to unequal access and usage; examining the effects of information inequality on different groups; or exploring practices and policies that address information gaps.

JS-04: Trending topics in Library and Information Science

Research in Library and Information Science (LIS) plays an important role in informing the effective provision of up-to-date library and information services. This topic explores the subjects and issues central to LIS and its subfields. The research may focus on: longitudinal changes in topics discussed in Singapore and worldwide; changing usage of theories and methods in LIS research; and differences in topics covered by scholarly publications and informal channels such as social media.

LCK-01: Porting the arXiv dataset into Neo4j

The arXiv dataset contains the metadata of over 1.7 million scholarly papers. In this project, students will study the arXiv dataset (downloadable from <https://www.kaggle.com/datasets/Cornell-University/arxiv> and write a Python program to port the data over to a graph database (specifically, the Neo4J database). We will then use the Neo4j database to perform graph theoretic analysis on the collaboration/co-authorship graph.

LCK-02: Porting the movies dataset into Neo4j

The Movies dataset contain the metadata of 45,000 movies. In this project, students will study the Movies dataset (downloadable from <https://www.kaggle.com/datasets/rounakbanik/the-movies-dataset> and write a Python program to port the data over to a graph database (specifically, the Neo4J database). We will then use the Neo4j database to perform graph theoretic analysis on the dataset.

LCK-03: Vertical farming: A bibliometric analysis

Vertical farming involves growing plants indoors in multi-storied structures. LED lighting is used to control growth and nutrition is carefully monitored. In this project, we will perform a bibliometric analysis of the academic literature of vertical farming.

LCK-04: Storage of Family Tree Information Using Neo4J

In this project, students will explore two things:

1. the possibility of using Neo4J for the storage and retrieval of information related to family trees
2. the visualisation of family trees on the Web using the Django web framework

The deliverable is a basic website that displays family configurations.

LCK-05: Storage of Research Publications Using Neo4J

In this project, students will explore two things:

1. the possibility of using Neo4J for the storage and retrieval of bibliometric information related to academic publications (journal papers, conference papers and monographs)
2. the visualisation of collaborative patterns on the Web using the Django web framework

The deliverable is a basic website that displays collaborative patterns between academics.

The two projects have some overlaps, and the two groups working on the projects are encouraged to collaborate. For more information, please email me at ascklee@ntu.edu.sg.

LCS-01: Understanding Cognitive in AI-Enabled Learning

LCS-02: Exploring Digital Nudging

LCS-03: Understanding information practices in the transitions to university and workplace

LCS-04: Examining the online information environment for neurodivergent learners

Please email the faculty at leecs@ntu.edu.sg to enquire if interested.

LGP-01: Case study of sustainability informatics in organizations

LGP-02: Perceptions and expectations of climate change: A survey

LGP-03: Survey of sustainability information management in organizations

LGP-04: Use of generative artificial intelligence (AI) in organizations

LGP-05: Use of generative artificial intelligence (AI) by professionals

LGP-06: Understanding older adults' information behaviour

Please email the faculty at peelg@ntu.edu.sg to enquire if interested.

LT-01: Exploration of Multimodal Embeddings

This project requires students to explore multimodal embeddings which are vectors that represent multiple types of data (like text, images, and video) in a shared vector space, allowing for similarity search and other tasks across these different modalities. Essentially, they bridge the gap between diverse data formats by transforming them into a common representation, enabling AI models to understand and compare information regardless of its original source. Students undertaking this project need to be familiar with Large Language Models (LLMs) concepts and Python programming.

LT-02: Study on Context Engineering

This project investigates Context Engineering, an emerging approach for designing intelligent systems that reliably interpret and act on context. Context Engineering is defined as the systematic identification, structuring, integration, and governance of contextual information—such as semantic cues, domain rules, user intent, and environmental conditions—to improve the performance and explainability of AI systems. The study attempts to develop a framework describing types of context and methods for incorporating them into large language model (LLM)

and agentic workflows. Through empirical evaluation and case studies, the project examines how engineered context influences accuracy, consistency, interpretability, and safety.

NJC-01: Fake News Detection on Social Media

Social media enables the wide spread of fake news. The extensive spread of fake news has the potential for extremely negative impacts on individuals and society. Therefore, fake news detection on social media has recently become emerging research that is attracting tremendous attention. Fake news is intentionally written to mislead readers to believe false information, which makes it difficult and nontrivial to detect based on news content; therefore, we need to include auxiliary information, such as emotions, stances, and user social engagements on social media, to assist in decision-making. The aim of this study is to develop fake news detection algorithms using a deep learning approach. Text/Data mining and computer programming skills will be useful for the project.

NJC-02: Stance Detection of Social Media Content

Stance analysis of social media content is a type of sentiment or opinion analysis that aims to determine the attitude or position (stance) of a person or organization on a specific topic, issue, or event as expressed in social media posts. Unlike traditional sentiment analysis, which focuses broadly on whether content is positive, negative, or neutral, stance analysis goes a step further by assessing a user's position (i.e., in favor, against, or neutral) regarding a specific topic or entity. The CI group will investigate stance analysis of user generated content using deep learning algorithms. Especially, the CI group will explore target-based stance analysis of social media content. Text/Data mining and computer programming skills are required for the project.

NPS-01: Understanding the library trends in post-pandemic period

Information about the CI project: The impact of the COVID-19 pandemic on library services has been significant, and these changes are still ongoing. Libraries face a fundamental shift that will extend far into the future and beyond the pandemic. This project requires students to analyse the current technological trends and how it can be mapped to the different libraries, including public and academic libraries. The goal of this project is for students to survey and understand what technological trends are important to patrons and librarians. The results will need to be analysed and assessed on how it can be fed into the Library Management System.

NPS-02: Ensuring Accessibility in Libraries: Strategies and Tools for Providing Equitable Access to Information and Services

The paper should cover:

- What accessibility means in the context of libraries and library systems, including the importance of ensuring that all members of a community have equal access to information and services.
- The barriers that people with disabilities may face in accessing library resources, including physical barriers (such as stairs or narrow aisles) and digital barriers (such as inaccessible websites or online resources).
- Strategies and best practices for ensuring accessibility in libraries, such as creating accessible physical spaces, providing assistive technology and devices, and designing accessible websites and online resources.
- Examples of successful accessibility initiatives in libraries, and the impact these initiatives have had on patrons with disabilities.

- The role of librarians and library staff in promoting accessibility, including the importance of training and education on accessibility issues.

Overall, this topic would allow students to explore the ways in which libraries can promote equity and inclusion by prioritizing accessibility and ensuring that everyone has equal access to information and services.

RSD-01: AI-Enabled Knowledge Management in Humanitarian and Crisis Response Organisations

This research study will examine how artificial intelligence can support knowledge management in humanitarian and crisis response organisations. Students will explore how AI-enabled tools can assist in knowledge capture, retrieval, synthesis, and decision support, particularly in environments where timely access to reliable information is essential.

The study may involve reviewing literature, analysing organisational workflows, and examining the knowledge and information shared by humanitarian organisations and regional disaster actors, including resources from UNDRR and the Asian Disaster Preparedness Center, to understand how AI may enhance or disrupt the use of operational knowledge.

The project aims to identify how AI can strengthen organisational memory, improve coordination, and support more effective knowledge-sharing practices while also considering ethical concerns such as trust, bias, accountability, and over-reliance on automated systems. Focus for Project: Information Studies students should focus on information retrieval, user trust, search behaviour, interface design, and access to AI-generated knowledge outputs, while KM students should emphasise knowledge capture, lessons learnt, decision support, organisational memory, and the role of AI in strengthening knowledge flows across teams and systems.

RSD-02: Tacit Knowledge, Organisational Learning, and Knowledge Retention in the Future of Work

This research study will investigate the role of tacit knowledge, organisational learning, and knowledge retention in shaping the future of work. Students will explore how organisations identify, share, and sustain valuable experiential knowledge through mentoring, peer learning, communities of practice, after-action reviews, and onboarding processes. The study may involve reviewing literature, conducting interviews with professionals, and examining case studies from Singapore, China or an area of students choice to understand how different organisational and cultural settings manage knowledge continuity, staff turnover, and learning across generations of workers.

The project aims to highlight practical and theoretical strategies for strengthening knowledge retention and supporting more adaptive and learning-oriented organisations. Ethical considerations in capturing, sharing, and using personal and professional knowledge should also be addressed. Focus for Project: Information Studies students should focus on information practices, documentation habits, platform use, and the role of digital tools in supporting knowledge-sharing, while KM students should emphasise tacit knowledge transfer, organisational learning, succession, retention strategies, and the cultural conditions that support knowledge continuity.

RSD-03: The Future Ready Knowledge Value Chain for Organisational Learning and Resilience

This research study will examine the Future Ready Knowledge Value Chain as a framework for understanding and improving organisational learning and resilience. Students will explore how knowledge is identified, acquired, codified, stored, shared, refined, applied, and created within organisations, and how these processes contribute to adaptability and long-term performance. The study may involve reviewing literature, analysing organisational cases, and drawing on Acies Innovations' work to examine how the value chain can be strengthened, refined, or validated in contemporary settings.

The project aims to deepen understanding of knowledge flows and identify how organisations can become more future-ready through better alignment of knowledge processes, systems, and learning practices. Ethical considerations in knowledge access, control, and use should also be addressed. Focus for Project: Information Studies students should focus on information flows, access pathways, content structures, and how users interact with knowledge systems, while KM students should emphasise KM processes, enablers, organisational memory, resilience, and the refinement of the model as a framework for organisational learning.

RSD-04: Bridging Knowledge Management and Content Management in Organisations

This research study will explore the relationship between knowledge management and content management in organisations and examine how both can be better integrated to support smarter and more effective work practices. Students will investigate how organisations move from managing static content, such as documents and repositories, to creating more dynamic knowledge ecosystems through classification, metadata, workflows, collaboration, and contextualised use. The study may also examine how disruptive AI affects socialisation in human exchange, including whether digital tools reshape collaboration, weaken relational knowledge-sharing, or reinforce the need for a human-in-the-loop approach in sensemaking and decision-making.

The project aims to identify how stronger integration between KM and content management can improve findability, reuse, decision-making, and organisational learning while preserving the human dimensions of knowledge work. Ethical considerations related to ownership, quality, access, transparency, and responsible use of AI-supported knowledge systems should also be addressed. Focus for Project: Information Studies students should focus on taxonomy, metadata, classification, content lifecycle, findability, and human-centred information interaction, while KM students should emphasise contextualisation, knowledge reuse, collaboration, human-in-the-loop knowledge processes, and the development of knowledge ecosystems that go beyond document storage.

RSD-05: Operational DEI in Knowledge Management: Designing Inclusive Knowledge Systems

This research study will investigate how diversity, equity, inclusion, and belonging can be embedded into knowledge management systems and practices to create more inclusive and effective organisations. Students will explore how issues such as representation, access, participation, voice, and psychological safety influence the way knowledge is created, shared, and applied. The study may involve reviewing literature, examining organisational policies and practices, and conducting interviews or case-based analysis using examples from DEI-prominent organisations and sectors, such as Black Girls Code or selected contexts in the non-profit organisations, military, police, or disaster management domain.

The project aims to identify how DEI-informed approaches can strengthen organisational learning, improve decision-making, and reduce barriers to knowledge access and participation. Ethical considerations relating to fairness, voice, bias, and responsible knowledge practices should also be addressed. Focus for Project: Information Studies students should focus on user access, usability, representation, information barriers, and inclusive design of systems and services, while KM students should emphasise knowledge equity, inclusive participation, organisational culture, accountability, and the role of DEI in shaping healthier knowledge environments.

RSD-06: Building a Community-Driven KM Knowledge Base for Global Practitioners

This research study will examine how a community-driven knowledge base can be designed and sustained to support global knowledge management practitioners. Students will explore how practitioner knowledge can be curated, validated, organised, and shared through a common platform that supports learning, collaboration, and professional practice across contexts. The study may involve reviewing literature, conducting interviews or surveys with practitioners, and analysing comparable knowledge platforms or communities of practice, including collaboration with the KM Global Network, a non-profit organisation working to build a knowledge base for global practitioners.

The project aims to propose how a KM knowledge base can improve access to practical resources, support knowledge exchange, and strengthen the development of the wider KM profession. Ethical considerations relating to authorship, validation, access, participation, and stewardship of shared knowledge should also be addressed. Focus for Project: Information Studies students should focus on information architecture, taxonomy, discoverability, curation, and user needs, while KM students should emphasise communities of practice, knowledge-sharing, validation mechanisms, governance, and the role of practitioner platforms in advancing KM as a field.

RSD-07: Knowledge Management for Mitochondrial Disease and Healthcare Information Ecosystems

This research study will explore the need for knowledge to be better managed in healthcare settings related to mitochondrial disease, often referred to as “mito,” with attention to how knowledge is created, shared, and used across clinicians, patients, caregivers, and support communities. Students will examine how healthcare information, patient guidance, care coordination knowledge, and specialist resources are organised and communicated, and how better knowledge management may

improve continuity of care, patient understanding, and professional learning. The study may involve reviewing literature, analysing patient and professional resource platforms, and examining how knowledge is managed across healthcare and patient-support ecosystems.

The project aims to identify how better knowledge organisation and sharing can strengthen healthcare outcomes, especially in complex or rare-disease settings where information is often fragmented and distributed across multiple actors. Ethical considerations related to privacy, accessibility, accuracy, stewardship, and patient-centred communication should also be addressed. Focus for Project: Information Studies students should focus on health information behaviour, information architecture, discoverability, resource design, and patient access to trusted information, while KM students should emphasise knowledge-sharing across clinical and support networks, continuity of expertise, interdisciplinary learning, and the role of knowledge management in complex healthcare ecosystems. Mitochondrial disease is commonly referred to as “mito” by patient and healthcare organisations, and several practitioner and patient-support groups already organise specialist resources, guides, and networks that could serve as useful case material.

RSD-08: Crowdsourced Knowledge, Informal Learning, and Digital Communities on Social Media

This research study will examine how knowledge is created, shared, and learned through social media platforms such as Facebook, Instagram, TikTok, Snapchat, Xiaohongshu (Little Red Book), Trell, Roposa and Ituloh. Students will explore how individuals and communities use these platforms to exchange practical knowledge, recommendations, experiences, and lessons in areas such as health, lifestyle, work, education, and everyday problem-solving. The study may involve reviewing literature, analysing selected platform content, and conducting interviews, surveys, or case studies to understand how crowdsourced knowledge emerges, gains credibility, and influences learning and decision-making.

The project aims to identify how informal learning takes place in digital environments and how platform design, community participation, and content formats shape the creation and spread of knowledge. Ethical considerations relating to privacy, misinformation, authorship, algorithmic influence, and responsible use of user-generated content should also be addressed. Focus for Project: Information Studies students should focus on information behaviour, credibility assessment, content discovery, platform affordances, and user interaction with crowdsourced information, while KM students should emphasise knowledge creation, peer-to-peer sharing, community learning, validation of informal knowledge, and how digital communities function as distributed knowledge ecosystems.

RSD-9: Knowledge Management as a Service for Public Policy, Digital Government, and Conservation

This research study will examine how knowledge management can be designed and delivered as a service to support public policy, digital government, and conservation outcomes. Students will explore how government priorities, including Indonesia’s Asta Cita agenda as reflected in national planning documents, can benefit from better knowledge capture, sharing, reuse, and coordination across agencies and stakeholders, and how service-based KM models may support more scalable and accessible organisational learning. The study may also examine how conservation organisations such as WWF rely on knowledge hubs, shared learning, technical documentation, lessons learnt, and communities of practice to support wildlife and environmental work, showing why knowledge management is critical in animal conservation where field results, monitoring data, and local expertise must be organised and transferred effectively.

The project aims to identify how KM-as-a-service can improve continuity, accountability, policy learning, and mission delivery in both government and conservation contexts. Ethical considerations

relating to stewardship, data integrity, access, collaboration, and responsible use of shared knowledge should also be addressed. Focus for Project: Information Studies students should focus on service design, information architecture, taxonomy, metadata, discoverability, and user access across digital platforms, while KM students should emphasise knowledge-sharing models, organisational learning, communities of practice, adaptive management, and how service-based KM can strengthen public institutions and conservation practice. Indonesia's national planning documents explicitly reference support for Presidential Asta Cita programmes, while WWF's own materials show a strong emphasis on knowledge hubs, shared learning, governance, and documenting lessons learned and technical outputs for conservation work.

RSD-10: Knowledge Management in Accounting and Tax Management Agencies

This research study will examine how knowledge management supports the work of accounting firms, tax agencies, and related professional services where accuracy, compliance, continuity, and trusted interpretation are essential. Students will explore how technical knowledge, regulatory updates, case interpretations, internal guidance, and tacit practitioner expertise are captured, shared, and applied across teams and systems. The study may involve reviewing literature, analysing professional workflows, and conducting interviews or case-based analysis to understand how accounting and tax organisations manage explicit and tacit knowledge in areas such as compliance, advisory work, training, succession, and service delivery.

The project aims to identify how stronger knowledge management can improve consistency, reduce knowledge loss, support decision-making, and enhance organisational learning in highly regulated environments. Ethical considerations relating to confidentiality, data protection, professional responsibility, transparency, and the responsible use of AI or automated systems in knowledge work should also be addressed. Focus for Project: Information Studies students should focus on information organisation, records and document management, taxonomy, classification, knowledge retrieval, and access to trusted sources, while KM students should emphasise knowledge-sharing, expert judgement, organisational memory, knowledge retention, continuous learning, and the role of KM in supporting professional and regulatory practice.

VH-01: The Impact of Generative AI on Business Decision-Making

This study examines how Generative AI (GenAI) tools (e.g., ChatGPT, Copilot, Claude) influence decision-making processes in businesses. Students will investigate how organizations integrate these AI models into strategic planning, data analysis, risk assessment, and operational efficiency – while also assessing challenges such as bias, misinformation, and over-reliance on AI-generated insights.

VH-02: Low-Code/No-Code Platforms: Empowering Citizen Developers and Redefining IT Roles

Low-code/no-code (LCNC) platforms allow users with little to no programming knowledge to build applications through visual interfaces and pre-built modules. These tools are increasingly used within organizations to speed up digital transformation, reduce backlog for IT departments, and enable rapid prototyping by business users — often referred to as citizen developers.

The goal is to study how LCNC platforms are transforming organizational workflows, IT governance, and the balance of responsibilities between business users and traditional IT professionals.

VH-03: Analysis of large dataset using Polars open-source library

Students will conduct a **data-driven research study** using **Polars** (Python) to analyze a real-world dataset, derive insights, and present findings. The focus is on **applying technical skills** (data cleaning, transformation, aggregation) while addressing a practical business or societal problem.

Examples include:

- Study purchasing patterns, customer segmentation, and sales trends using Amazon Product Sales Dataset (Kaggle)
<https://www.kaggle.com/datasets/karkavelrajai/amazon-sales-dataset>
- Process large volumes of social media posts (e.g., Twitter/X) to gauge public sentiment on a topic <https://www.kaggle.com/datasets/crowdfLOWER/twitter-airline-sentiment>

VH-04: Blockchain for Supply Chain Transparency and Traceability

The objective is to study how blockchain can improve supply chain transparency, particularly in industries such as food, pharmaceuticals, or luxury goods. Focus on how decentralized ledgers ensure data immutability and traceability of goods from origin to destination.

Research areas include:

- Case studies on companies using blockchain for provenance tracking (e.g., VeChain).
- Challenges in adoption (cost, scalability, integration with legacy systems).
- Evaluating impact on consumer trust or compliance (e.g., ESG standards).

VH-05: Evaluating the Effectiveness of DevOps Practices in Modern Software Teams

DevOps has become a dominant approach in modern software engineering, integrating development and operations through automation, collaboration, and continuous improvement. While many organisations claim to “do DevOps,” the actual level of adoption, effectiveness, and benefits achieved often vary significantly across teams.

This research proposes to examine how DevOps practices - such as Continuous Integration (CI), Continuous Delivery/Deployment (CD), automated testing, infrastructure-as-code (IaC), monitoring, and cross-functional collaboration- affect software delivery performance, team productivity, and product quality.

The study will explore:

- How different teams interpret and implement DevOps
- Whether DevOps implementation correlates with faster releases, higher quality, and better team morale
- What cultural, organisational, or tooling barriers impact DevOps success

This investigation aims to produce practical insights that organisations can use to optimise their DevOps adoption and improve development outcomes.

VH-06: Cloud-Native Architectures and Their Impact on Information Systems

Cloud-native architectures - built around microservices, containers, orchestration platforms, and managed cloud services -are increasingly used to modernise information systems. This study examines how adopting cloud-native approaches affects system scalability, reliability, performance, and development efficiency. It also considers organisational implications such as skills, tooling, and integration with existing systems.

Research Goals:

- Identify the cloud-native practices and components commonly used in modern software development (e.g., microservices, containers, serverless, CI/CD).
- Evaluate how cloud-native adoption influences system performance and agility, based on developer and architect perceptions.
- Understand challenges faced during cloud-native adoption, including architectural complexity, skill requirements, and migration issues.
- Recommend strategies that improve the effectiveness of cloud-native implementations for information systems.

VZ-01: Disability and Technology

This CI topic considers the intersection of disability with technology in contemporary society. In this project, students will adopt a critical disability study, combined with insights from communication and information studies to study their choice of technology and its impact on disability. Examples of technologies may include, but are not limited to genAI, AI, automation, smart cities, QR codes, autonomous vehicles, self-checkout machines, mobile apps, national ID apps, and so on.

NTU Email Addresses of Supervisors

Name	Email
Alton Chua	altonchua@ntu.edu.sg
Brenda Lee	brendalee@ntu.edu.sg
Brendan Luyt	brendan@ntu.edu.sg
Chris Khoo	assgkhoo@ntu.edu.sg
Dion Goh	ashlgoh@ntu.edu.sg
Francis Tay	francistay@ntu.edu.sg
Hamzah Bin Osop	hamzah.osop@ntu.edu.sg
Jonathan Pan	jonathanpan@ntu.edu.sg
Joanna Sin	joanna.sin@ntu.edu.sg
Lee Chu Keong	ascklee@ntu.edu.sg
Lee Chei Sian	leecs@ntu.edu.sg
L. G. Pee	peelg@ntu.edu.sg
Na Jin Cheon	tjcna@ntu.edu.sg
Nirmal Prabu S/O Sangar	nirmalprabu@ntu.edu.sg
Rajesh Singh Dhillon	rajesh.dhillon@ntu.edu.sg

Tan Kien Weng Luke	luke.tan@ntu.edu.sg
Vaidhyanathan Hariharan	vhariharan@ntu.edu.sg
Victor Zhuang	victor.zhuang@ntu.edu.sg