

FUNDAMENTALS OF LEARNING AND INFORMATION PROCESSING

SESSION 20: TULIP APPROACH TO RESEARCH (I)



Gang Li

Deakin University, Australia

2024-03-11

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TULIP Academy

Whom am I?

- Professor **Gang Li**
 - ◆ **Deakin University**
 - *University Academic Board Member*
 - *University Thesis Examination Committee*
 - *Cyber Analytics & AI leader, Deakin CREST*
 - *Deputy Director, Deakin D2I*
 - ◆ **Academic Services**
 - IEEE Technical Committee
 - ◆ *Task Force on Educational Data Mining, (Chair 2020-)*
 - ◆ *Data Mining and Big Data Analytics, (Vice Chair 2017-2019)*
 - ◆ *Enterprise Information Systems*
 - ◆ *Enterprise Architecture and Engineering*
 - IJCAI, AAAI several times as *Area Chair*
 - PAKDD, ACML as *Senior PC*
 - KSEM, etc. several times as *PC / General Chairs*
 - DSS, IT&T, TM, JTR as *Associate Editor*



Deakin University

👉 Among the **top** 1 % of universities worldwide, *Computer Science* ranked the **4th** in Australia

Major Rankings.

- Among the **top** 1 % of universities worldwide (*Shanghai Rankings*)
- Ranked in the **Top** 50 young universities in the world (*QS and Times Higher Education*)
- Ranked in the World **Top** 50 – 75 in *Computer Science and Engineering*, the **4th** in Australia (*Shanghai Rankings 2023*)
- Ranked **#1** in Victoria for student satisfaction for the last 11 years (*Australian Graduate Survey*)
- **#1** university in Australia for *education experience* (*2019 Student Survey*)
- **#1** university in Australia for *careers service*(*Australian Graduate Recruitment Industry Awards*)



Table 1: Major Rankings of Deakin University

	Benchmark	2014-2015	2015-2016	2016-2017	2017-2018
ARWU	World National	301-400 12-19	201-300 9-14	201-300 11-14	201-300 10-15
CWTS Leiden	World National	284 11	325 17	314 17	226 11
QS#	World National	360 19	324 17	355 19	293 17
THE	World National	301-350 13-15	301-350 18-19	251-300 12-18	301-350 17-21
THE<50	World National	45 6	50 8	43 8	50 8

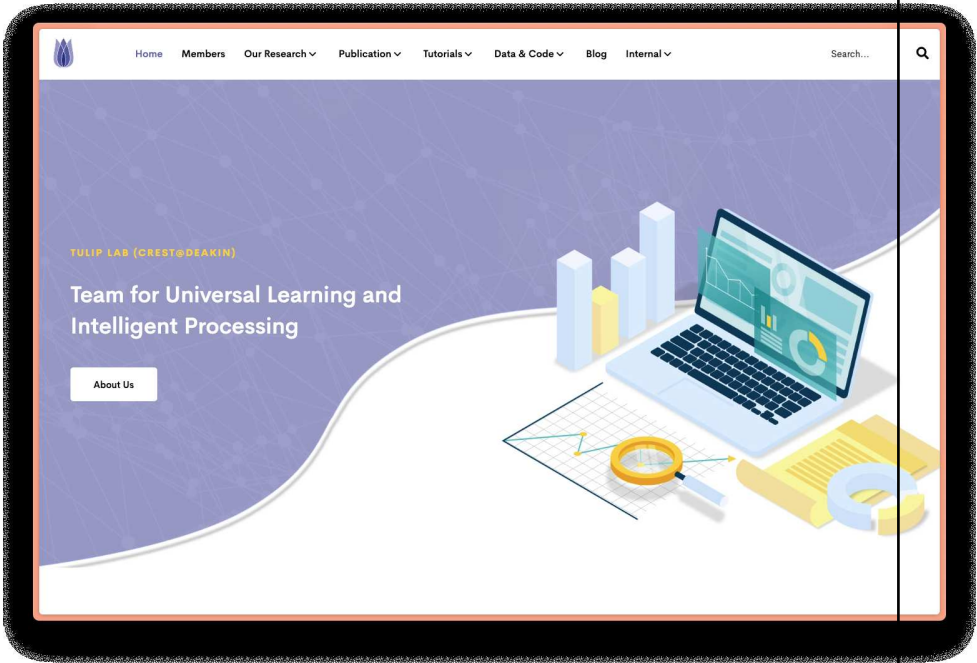
<https://www.australianuniversities.com.au/rankings/>

Team for Universal Learning and Intelligent Processing

👉 Focus on Intelligent Techniques




Research Areas.

- Artificial Intelligence** automate various intelligent tasks using advanced algorithms
- Privacy & Security** Cyber-security and How to preserve the privacy of individuals while analyzing the data
- Business Intelligence** support business decision-making using data science and artificial intelligence.
- AI Applications** AI and data science applications in various domains



Web Resources

Official Websites

-  Google Scholar
-  <https://www.tulip.org.au>
-  <https://github.com/tulip-lab>

Social Media

-  Twitter
-  Reddit
-  LinkedIn

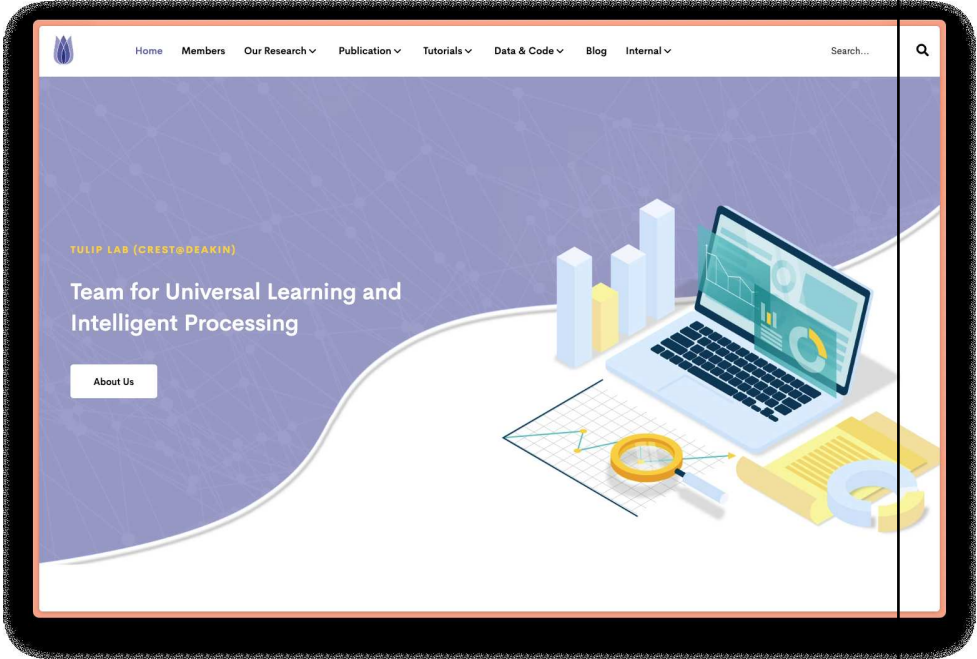
NEXUS Research Training Program

NEXUS Research Training @ TULIP

 **Igniting Innovation, Cultivating Minds:**
where Research Excellence Begins

Research Internships.

- The Student Researcher Internship offers more opportunities for students to work on **high impact and critical research projects**.
- It allows opportunities **beyond the limitations** of our traditional internship program on aspects such as *duration, time commitment, and working location*.



NEXUS Training Stages

Stage-3

- ➡ Collaborative Discovery: Intensive Partnership in Research
- Publications: 2+ CORE A*
- 🎓 One research proposal for your PhD application

Stage-2

- ➡ Progressive Research Mastery: Frequent Mentorship and Self-Direction
- publish research papers at CORE A*/A conferences
- overtake supervisor in metrics such as 📄 contributions
- develop high-impact open source data or open source code

Stage-1

- ➡ Independent Exploration: Navigating Research with Guided Insights
- understand key research topic and method
- complete literature review
- develop basic benchmarking empirical framework

NEXUS Outstanding Alumni



University of Pennsylvania (Wharton) is ranked global No. 3 in Best Business Schools.

Daniel Gao (He/Him)
Australian Delegate to G20 Youth || Student at the Wharton School

Research Intern under Dr. Gang Li
Deakin Research - Internship
Mar 2021 - Sep 2022 · 1 yr 7 mos
Melbourne, Victoria, Australia
Data-mining and data visualisation for PhD candidates at TULIP-lab

Intern
Anthony Raso & Associates
Jan 2020 - Feb 2020 · 2 mos
Melbourne, Victoria, Australia · On-site

Education

The Wharton School
Finance & Business Economics and Public Policy
Activities and societies: Penn Undergraduate Capital Partners (Project Lead/Sourcing Analyst), Moso Capital (Investment Analyst), Social Impact Consulting (Consultant)

Impact Factor: 5.1 / 5-Year Impact Factor: 4.4

Available access | Research article | First published online December 1, 2022

Value creation in wine tourism – an exploration through deep neural networks

Daniel Gao, Haiyang Xia, L.-J. and Rob Law | View all authors and affiliations

OnlineFirst | https://doi-org.ezproxy-b.deakin.edu.au/10.1177/13567667221140605

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Abstract

The aim of this paper is to explore what aspects create experiential value for wine tourists. We synthesize the extant literature into four dimensions for wine tourism value creation, namely, product-related aspects; sensory and affective experiential aspects; cognitive, educational experiential aspects; and social-relational experiential value-creating aspects. So far, most studies merely discuss product-related aspects whilst insights on experiential value are less known. Using online review data from wine tourists in Australia, we develop a novel deep neural network-based framework using an innovative AI-based exploratory design. Results of the case study reveal that in addition to product-related aspects, sensory-and education-related experiential aspects are also highly important for value creation in wine tourism. Theoretical and practical implications, as well as ideas for future research are discussed.



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NEXUS Resources

Repositories

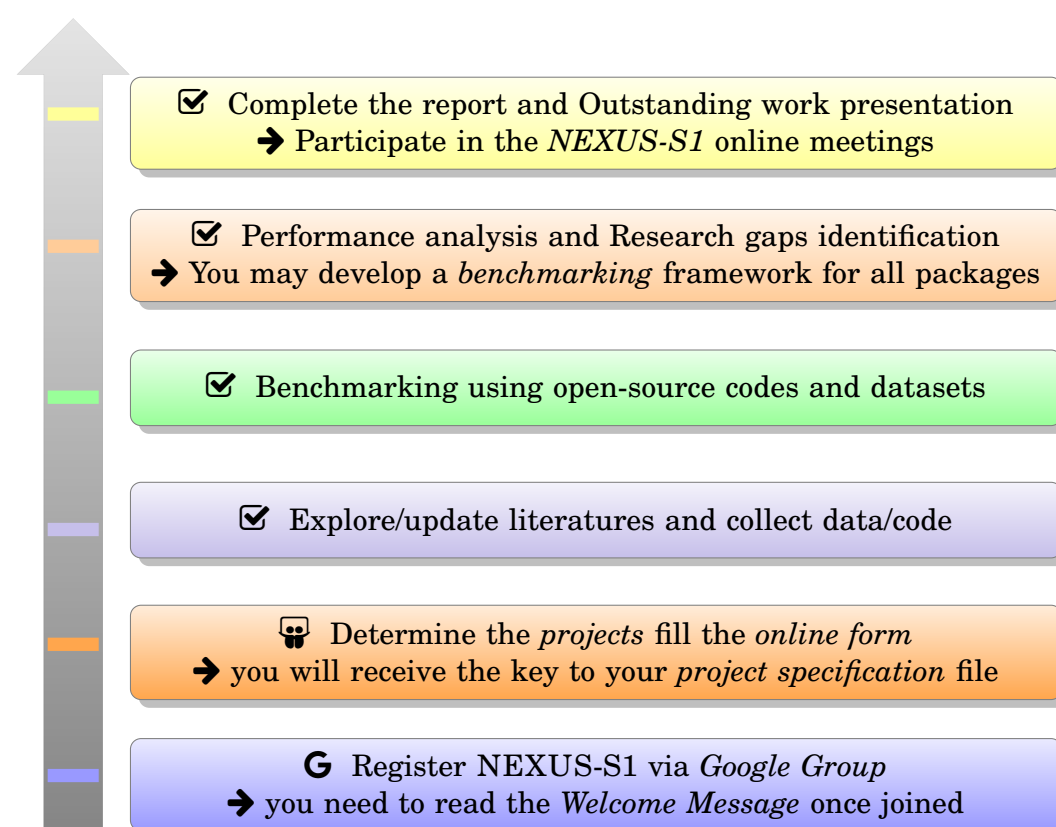
-  TULIP-LAB Resources
-  TULIP-LAB Open-Projects

Services

- **G:** NEXUS-S1
- **G:** NEXUS-S2
- **G:** NEXUS-S3

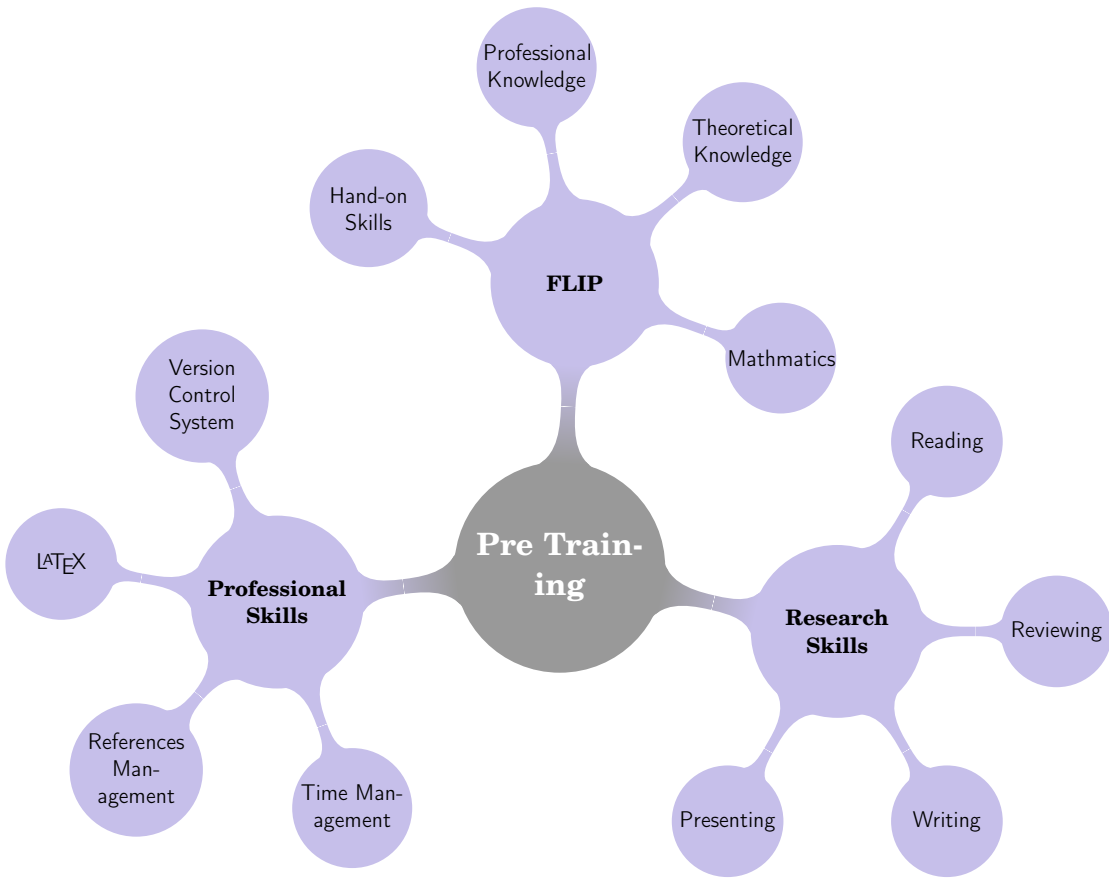
(None)-3293a6a (2024-03-11) – 13 / 18

NEXUS-S1 Recommended Timeline



(None)-3293a6a (2024-03-11) – 14 / 18

Pre-NEXUS Skills



Do and Don’t



DO

- Be *proactive*
- Read More, Write More
- Find resources and tools proactively
- Reproduce the work from top Papers
- Simulate the writing of Good Papers
- Seek feedback from peers
- Actively participate in the fortnight online NEXUS-S1 meetings
- Actively participate in the NEXUS-S1 Google Group



DO NOT




- Do not be *passive*
- Not in “*Academic writing in English*”
- No ethical issues such as *plagiarism, double submission*
- Do not oversell your own work
- Do not wait for instructions, come up with your own ideas

Questions?

Contact Information

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-  OPEN RESOURCES FROM TULIP-LAB
-  TEAM FOR UNIVERSAL LEARNING AND INTELLIGENT PROCESSING, AUSTRALIA