

Research Skill BootCamp

Up-skill research skillets

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The University of Western Australia

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Research Skill Bootcamp



- Continuation of last year's AI Bootcamp with renewed focus
- Interactive, hands-on sessions for practical skill development
- Collaborative environment to solve real research challenges
- Personalized guidance on your specific projects

"Share experiences and work together to solve research challenges"

Why We Are Doing This

Purpose:

- Accelerate research skills
- Address real challenges
- Share practical knowledge
- Build peer connections

Outcomes:

- Research community
- Efficient workflows
- Higher quality outputs
- Sustainable knowledge transfer

Current Location and Time is: Thursday 2pm-4pm, MATH G19

The Team

Research Skill Bootcamp Team



Hongwei Wu



Daochang Liu



Sirui Li



Chau Nguyen



Wei Liu



Jichunyang Li



Naeha Sharif



Tim French



Melinda



Siwen Luo



Tingting Bi



Pascal Sun

More will be involved to share their work, knowledge and experience.

A large, faint watermark of the INTLP logo is centered in the background. It consists of a light blue circle with the letters 'INTLP' in a stylized font inside. The 'I' and 'N' are light blue, while the 'T', 'L', and 'P' are a slightly darker shade of blue.

Program Overview

Research Skills Bootcamp Curriculum (Part 1)

Module	Key Components
1. Research Overview	▪ Research lifecycle from problem to publication ▪ Different research paradigms ▪ Academic ecosystem understanding
2. Writing Tools	▪ LaTeX and Overleaf: templates, formulas, tables, collaboration and reference management
3. Literature Review	▪ Search strategies with Connected Papers, Semantic Scholar ▪ Critical reading and identifying research gaps

Research Skills Bootcamp Curriculum (Part 2)

Module	Key Components
4. Problem Formulation	▪ Research questions and mathematical formalization ▪ Hypothesis development and scope definition
5. Experiment Design	▪ Methodology selection and experimental design ▪ Ethics considerations and research validity
6. Data Management	▪ Collection, cleaning, storage best practices ▪ Data documentation and metadata
7. Visualization	▪ Tools: draw.io, Canva, Figma, TikZ ▪ Publication-quality figure creation

Research Skills Bootcamp Curriculum (Part 3)

Module	Key Components
8. Analysis Methods	- Statistical techniques and appropriate method selection - Results interpretation, Ablation Study
9. Advanced Modeling	- Neural networks (MLP, CNN, RNN, LSTM) - Transformers and recent advances (Diffusion, Mamba)
10. Academic Writing	- Paper structure and clear abstract writing - Results presentation and reviewer response
11. Research Communication	- Conference presentations and poster design - Research "elevator pitch" and slide design

The logo for the NTLP Research Skill BootCamp is a large, light blue circle. Inside the circle, the letters 'NTLP' are written in a large, bold, sans-serif font. The 'N' and 'L' are light blue, while the 'T' and 'P' are a slightly darker shade of blue. Above the letters, the words 'Research Skill BootCamp' are written in a smaller, light blue, sans-serif font.

Research overview

Introduction to Research

How to be an Independent, Effective and Productive Researcher

Lessons and Tips

Distinguished Speaker

Prof Hongwei Wu

Curtin University, Chemical Engineering

Expertise: **Very Very Very** Experienced PhD supervisor and scholar





Q&A

Questions?

Feel free to ask anything