

北陸先端科学技術大学院大学研究室教育指針
Laboratory Education Guideline

研究室教育指針は、学則第30条の3に基づき、研究指導の方法及び内容並びに修了までの研究指導の計画をあらかじめ明示するものです。

Based on the Article 30-3 of the general academic rules, the Laboratory Education Guideline is intended to clearly outline the methods and content of research guidance, as well as the plan for research guidance until completion.

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1. 研究テーマ / Research Theme
Knowledge Representation and Learning in the Era of Modern AI
2. 修得が期待される能力 / Competencies expected to be acquired 研究室教育は必修 A 科目（先端）又は研究支援科目（融合）の一部として単位化されており、この欄はそれら科目のシラバス上の達成目標の一部となります。 Laboratory Education is accredited as a part of the Required courses A (Division of Advanced Science and Technology) or Research Support Courses (Division of Transdisciplinary Sciences), and this section constitutes a part of the course goals stated in the syllabus for such subjects.
Through the study of large language models (LLMs), generative AI, and neuro-symbolic approaches, students will explore methods for integrating human-interpretable knowledge representations with neural models to achieve consistent, reliable, and creative AI behavior. The student will be expected to learn state-of-the-art techniques in knowledge representation and learning, examines the evolution of interaction and reasoning with LLM-based systems, and enables students to apply existing methods and tools to problem solving. Students will also develop the ability to critically analyze limitations of current approaches and to reason about emerging challenges, novel problem formulations, and future directions in neuro-symbolic and LLM-centric AI.
3. 研究指導方針 / Research Guiding Principle
The primary goal for teaching students is that we should teach students how they can develop an ability of self-learning. For supervising graduated students, we think one of the most important things is how to find problems for studying. To support students, we would like to discuss with students as much as possible to help them in choosing the research topic and discovering problems. Reading skill is so important for students in order to enrich their knowledge, and it would be helpful for students in choosing the topics and finding out problems. For this reason, our lab organize seminar courses covering state-of-the-art results in knowledge representation and learning in the Era of Modern AI including: Knowledge Representation, LLM, and reasoning. We think reading and discussing on state-of-the-art works, would be useful for improving not only student's knowledge but also the student's skills in writing papers. We also organize seminar courses covering the background knowledge both in machine learning and knowledge representation.
4. 研究室活動の内容及び方法 / Content and Methods of Laboratory Activities

- 日次活動 / Daily Activities : Coffee minutes meeting at the lab common space
- 週次活動 / Weekly Activities : Seminar every week
- 月次活動 / Monthly Activities : Report meeting every two weeks
- 不定期活動 / Occasional Activities : Attending joint lab seminars, workshops/conferences, internships, future career path discussions

5. 年間スケジュール / Annual Schedule

本学の全学共通の年間スケジュールは「履修案内」の「学位取得に至るスケジュール」を参照してください。(本学HP参照: ホーム>教育>履修関係>履修案内)

Please refer to the “Degree conferment schedule for the master’s program/doctoral program” in the “Degree Completion Guide” for university-wide common schedule (JAIST website: Home >Education>Taking Courses>Degree Completion Guide)

- Laboratory Orientation for New Students (April)
- Laboratory Social Activiy (April)
- Participation in JSAI Workshop and NLP conference
- Rehearsal for thesis defenses for ensuring that the students are ready for the final stage.
The rehearsal will be conducted at least once and repeated for improvement.