

## Qualifying Exam Evaluation

**Candidate Name:** Wu, Siyu

**Committee Member Names:** Guoray Cai, Cindy Lin, Kaamran Raahemifar

### Portfolio Evaluation:

#### Courses (knowledge of subject matter: appropriateness of courses, grades in courses)

Clearly Fails to Meet Expectations	Does Not Quite Meet Expectations	Meets Expectations	Exceeds Expectations
<p><i>2 or 3 of the following:</i></p> <p><input type="checkbox"/> Did not register for graduate courses appropriate for the student's individual academic plan</p> <p><input type="checkbox"/> Did not earn at least a B in all courses</p> <p><input type="checkbox"/> Inappropriate class participation (e.g., missed many class meetings or in other ways missed the intended graduate course experience)</p>	<p><i>1 of the following:</i></p> <p><input type="checkbox"/> Did not register for graduate courses appropriate for the student's individual academic plan</p> <p><input type="checkbox"/> Did not earn at least a B in all courses</p> <p><input type="checkbox"/> Inappropriate class participation (e.g., missed many class meetings or in other ways missed the intended graduate course experience)</p>	<p><i>Both:</i></p> <p><input type="checkbox"/> Registered for graduate courses appropriate for the student's individual academic plan</p> <p><input type="checkbox"/> Earned grade of at least B in all courses</p>	<p><i>Both:</i></p> <p><input checked="" type="checkbox"/> Registered for graduate courses appropriate for the student's individual academic plan</p> <p><input checked="" type="checkbox"/> Earned grade of A or A- in all courses</p>

#### Abstract (identifies central research problem and connects to literature; demonstrates valid use of preliminary research design and methods)

Clearly Fails to Meet Expectations	Does Not Quite Meet Expectations	Meets Expectations	Exceeds Expectations
<p><i>All:</i></p> <p><input type="checkbox"/> Demonstrated <b>minimal</b> ability to define a research area</p> <p><input type="checkbox"/> Demonstrated <b>minimal</b> understanding of appropriate research methods</p> <p><input type="checkbox"/> Poorly written; does not make sense</p>	<p><i>1 of the following:</i></p> <p><input type="checkbox"/> Expressed a defined research area in relationship to existing literature</p> <p><input type="checkbox"/> Chose appropriate research methods</p> <p><i>OR Both:</i></p> <p><input type="checkbox"/> Demonstrated <b>minimal</b> ability to define a research area</p> <p><input type="checkbox"/> Demonstrated <b>minimal</b> understanding of appropriate research methods</p>	<p><i>Both:</i></p> <p><input checked="" type="checkbox"/> Expressed a defined research area in relationship to existing literature</p> <p><input checked="" type="checkbox"/> Chose appropriate research methods</p>	<p><i>All:</i></p> <p><input type="checkbox"/> Expressed a defined research area in relationship to existing literature</p> <p><input type="checkbox"/> Chose appropriate research methods</p> <p><input type="checkbox"/> Demonstrated well-developed ideas of research methods, e.g. justifying choices, discussing strengths and limitations</p>

### Curriculum Vitae (participation in research activities, presentations and publications)

Clearly Fails to Meet Expectations	Does Not Quite Meet Expectations	Meets Expectations	Exceeds Expectations
<input type="checkbox"/> No evidence of participation in research activity	<input type="checkbox"/> Demonstrated sporadic research active behaviors (e.g., only attended research/lab meetings from time to time; did not actively participate in research/lab meetings)	<input type="checkbox"/> Demonstrated being research active (e.g., going to research/lab meetings on a regular basis; actively participating at research/lab meetings)	<p><i>Both:</i></p> <input checked="" type="checkbox"/> Demonstrated being research active (e.g., going to research/lab meetings on a regular basis; actively participating at research/lab meetings)
			<input checked="" type="checkbox"/> Attended a conference to present research or submitted a manuscript for publication

### Advisor's Letter (assessment of research potential)

Clearly Fails to Meet Expectations	Does Not Quite Meet Expectations	Meets Expectations	Exceeds Expectations
<input type="checkbox"/> Lack of support from advisor	<input type="checkbox"/> Concerns outweigh support from advisor for developing research abilities and potential for scholarship	<input type="checkbox"/> Advisor supports ability to develop research abilities and potential for scholarship (may include areas for development)	<input checked="" type="checkbox"/> Overwhelming support from advisor for developing research abilities and potential for scholarship

### Comments for the student on the Portfolio.

Wu has been extremely productive in her publications and appears to have a good working relationship with advisor. She has a lot of experiences in research and has presented in several prestigious venue. She is in good standing in IST.

**Written Exam (Research Proposal) Evaluation:**

**Communication Skills (organization of ideas and proficiency in written English; ideas convey a clear and compelling set of arguments; writing is grammatically correct and fluent English)**

Clearly Fails to Meet Expectations	Does Not Quite Meet Expectations	Meets Expectations	Exceeds Expectations
<i>Demonstrates neither:</i> <input type="checkbox"/> Organized and clear writing <input type="checkbox"/> Proficiency in English technical writing skills	<i>Demonstrates either 1 of the following; or shows both but inconsistently:</i> <input type="checkbox"/> Organized and clear writing <input type="checkbox"/> Proficiency in English technical writing skills	<i>Demonstrates both:</i> <input checked="" type="checkbox"/> Organized and clear writing <input checked="" type="checkbox"/> Proficiency in English technical writing skills	<i>Both:</i> <input type="checkbox"/> Exemplary organization and overall structure, as well as clear and compelling arguments <input type="checkbox"/> Mastery of English technical writing skills

**Knowledge of primary subject matter (understanding and synthesizing critical concepts in knowledge domain underlying research abstract; fundamental concepts should cover relevant theory, open research questions, methodology, and critical analysis)**

Clearly Fails to Meet Expectations	Does Not Quite Meet Expectations	Meets Expectations	Exceeds Expectations
<i>Within domain of abstract, shows well-supported knowledge in only 1 or none of:</i> <input type="checkbox"/> Concepts/Theory <input type="checkbox"/> Open Research Questions <input type="checkbox"/> Methodology <input type="checkbox"/> Critical Analysis	<i>Within domain of abstract, shows well-supported knowledge in 2 and minimal knowledge in others:</i> <input type="checkbox"/> Concepts/Theory <input type="checkbox"/> Open Research Questions <input type="checkbox"/> Methodology <input type="checkbox"/> Critical Analysis	<i>Within domain of abstract, shows well-supported knowledge in 3 areas, and at least minimal evidence in the other:</i> <input checked="" type="checkbox"/> Concepts/Theory <input checked="" type="checkbox"/> Open Research Questions <input checked="" type="checkbox"/> Methodology <input type="checkbox"/> Critical Analysis	<i>Within domain of abstract, shows well-supported knowledge in all:</i> <input type="checkbox"/> Concepts/Theory <input type="checkbox"/> Open Research Questions <input type="checkbox"/> Methodology <input type="checkbox"/> Critical Analysis

**Integrative thinking (creatively integrate literature associated with the prompts in the exam question; evidence-based arguments that answer the question in his or her own words, discuss applicable literature in appropriate detail, and synthesize readings in a nuanced manner that makes connections that have not already been stated)**

Clearly Fails to Meet Expectations	Does Not Quite Meet Expectations	Meets Expectations	Exceeds Expectations
<p><i>Demonstrates none or is inconsistent:</i></p> <input type="checkbox"/> Formulates clear, well-supported arguments <input type="checkbox"/> Discusses applicable literature in appropriate detail <input type="checkbox"/> Synthesizes literature in an organized and creative manner	<p><i>Demonstrates at least 1 consistently, and other 2 inconsistently:</i></p> <input type="checkbox"/> Formulates clear, well-supported arguments <input type="checkbox"/> Discusses applicable literature in appropriate detail <input type="checkbox"/> Synthesizes literature in an organized and creative manner	<p><i>Demonstrates at least 2 consistently:</i></p> <input checked="" type="checkbox"/> Formulates clear, well-supported arguments <input checked="" type="checkbox"/> Discusses applicable literature in appropriate detail <input type="checkbox"/> Synthesizes literature in an organized and creative manner	<p><i>Demonstrates all:</i></p> <input type="checkbox"/> Formulates clear, well-supported arguments <input type="checkbox"/> Discusses applicable literature in appropriate detail <input type="checkbox"/> Synthesizes literature in an organized and creative manner

**Research Strategy/Scholarship Potential (identifying central research problem and relating it to prior work, preliminary knowledge of research methods, conveys significance, innovation, and broader implications of proposed research)**

Clearly Fails to Meet Expectations	Does Not Quite Meet Expectations	Meets Expectations	Exceeds Expectations
<p><i>Demonstrates none:</i></p> <input type="checkbox"/> Identification of a central research problem in the context of existing literature <input type="checkbox"/> Understanding of research strategy and preliminary research design <input type="checkbox"/> Awareness of significance, innovation, and broader implications of proposed research	<p><i>Demonstrates only 1; or 2 or 3 but inconsistently:</i></p> <input type="checkbox"/> Identification of a central research problem in the context of existing literature <input type="checkbox"/> Understanding of research strategy and preliminary research design <input type="checkbox"/> Awareness of significance, innovation, and broader implications of proposed research	<p><i>Demonstrates all 3:</i></p> <input checked="" type="checkbox"/> Identification of a central research problem in the context of existing literature <input checked="" type="checkbox"/> Understanding of research strategy and preliminary research design <input checked="" type="checkbox"/> Awareness of significance, innovation, and broader implications of proposed research	<p><i>Demonstrates all 3:</i></p> <input type="checkbox"/> Identification of a central research problem in the context of existing literature <input type="checkbox"/> Exemplary understanding of research strategy and research design <input type="checkbox"/> High awareness of significance, innovation, and broader implications of proposed research

### Comments for the students on the Written Exam.

The committee found that the proposed research direction and methods are quite promising. The written response to the prompt questions were well-composed and backed by literature. Papers cited were up-to-date and relevant.

While the framework for integrating ACT-R and LLAMA seems to be innovative, more details on how to apply such a framework on problem-domains and how to measure successes have not been fully fleshed out. The committee encourages Siyu to broaden the literature review to ensure full considerations of alternative coupling methods and their potential pros and cons. You should articulate the needs for such a configuration from applications and expected behaviors.

The claim for taking a human-centered approach was questionable, as the proposed work merely meant observing and analyzing human behavior. If the study was just about simulation of human behavior, is the human-centered approach still relevant?

There are rooms to improve the structure of the paper for clarity. For example, section 2 and 3 could be merged. Terms such as efficiency and accessibility are not well-explained and needs qualifying evidence. More careful organization of the literature and research objectives would make the ideas flow better.

**Oral Exam Evaluation:**

**Communication Skills (organization of ideas and proficiency in written English; ideas convey a clear and compelling set of arguments; writing is grammatically correct and fluent English)**

Clearly Fails to Meet Expectations	Does Not Quite Meet Expectations	Meets Expectations	Exceeds Expectations
<p><i>Demonstrates neither:</i></p> <input type="checkbox"/> Organized and clear oral presentation <input type="checkbox"/> Proficiency in understanding and responding in English <input type="checkbox"/> English	<p><i>Demonstrates only 1 or both but inconsistently:</i></p> <input type="checkbox"/> Organized and clear oral presentation <input type="checkbox"/> Proficiency in understanding and responding in English	<p><i>Demonstrates both:</i></p> <input type="checkbox"/> Organized and clear oral presentation <input type="checkbox"/> Proficiency in understanding and responding in English	<p><i>Demonstrates both:</i></p> <input checked="" type="checkbox"/> Exemplary organization and overall structure, as well as clear and compelling arguments in the oral presentation <input checked="" type="checkbox"/> Mastery in understanding and responding in English

**Knowledge of primary subject matter (understanding and synthesizing critical concepts in knowledge domain of the research abstract; knowledge of fundamental concepts in theory, open research questions, methodology, and critical analysis)**

Clearly Fails to Meet Expectations	Does Not Quite Meet Expectations	Meets Expectations	Exceeds Expectations
<p><i>Within domain of abstract, shows well-supported knowledge in only 1 or none of:</i></p> <input type="checkbox"/> Concepts/Theory <input type="checkbox"/> Open Research Questions <input type="checkbox"/> Methodology <input type="checkbox"/> Critical Analysis	<p><i>Within domain of abstract, shows well-supported knowledge in 2 and minimal knowledge in others:</i></p> <input type="checkbox"/> Concepts/Theory <input type="checkbox"/> Open Research Questions <input type="checkbox"/> Methodology <input type="checkbox"/> Critical Analysis	<p><i>Within domain of abstract, shows well-supported knowledge in 3, and at least minimal knowledge in fourth:</i></p> <input type="checkbox"/> Concepts/Theory <input type="checkbox"/> Open Research Questions <input type="checkbox"/> Methodology <input type="checkbox"/> Critical Analysis	<p><i>Within domain of abstract, shows well-supported knowledge in all:</i></p> <input checked="" type="checkbox"/> Concepts/Theory <input checked="" type="checkbox"/> Open Research Questions <input checked="" type="checkbox"/> Methodology <input checked="" type="checkbox"/> Critical Analysis

**Integrative thinking (creatively integrate literature associated with the prompts in the exam question; evidence-based arguments that answer the question in his or her own words, discuss applicable literature in appropriate detail, and synthesize readings in a nuanced manner that makes connections that have not already been stated)**

Clearly Fails to Meet Expectations	Does Not Quite Meet Expectations	Meets Expectations	Exceeds Expectations
<p><i>Demonstrates none or is inconsistent:</i></p> <input type="checkbox"/> Formulates clear, well-supported arguments <input type="checkbox"/> Discusses applicable literature in appropriate detail <input type="checkbox"/> Synthesizes literature in an organized and creative manner	<p><i>Demonstrates at least 1 consistently, and other 2 inconsistently:</i></p> <input type="checkbox"/> Formulates clear, well-supported arguments <input type="checkbox"/> Discusses applicable literature in appropriate detail <input type="checkbox"/> Synthesizes literature in an organized and creative manner	<p><i>Demonstrates at least 2 consistently:</i></p> <input checked="" type="checkbox"/> Formulates clear, well-supported arguments <input checked="" type="checkbox"/> Discusses applicable literature in appropriate detail <input checked="" type="checkbox"/> Synthesizes literature in an organized and creative manner	<p><i>Demonstrates all:</i></p> <input type="checkbox"/> Formulates clear, well-supported arguments <input type="checkbox"/> Discusses applicable literature in appropriate detail <input type="checkbox"/> Synthesizes literature in an organized and creative manner

**Critical thinking about research proposal (answers clarifying questions, provides arguments and rebuttals to skepticism about proposed work, justifies research approaches and tools)**

Clearly Fails to Meet Expectations	Does Not Quite Meet Expectations	Meets Expectations	Exceeds Expectations
<p><i>Demonstrates only 1 or neither, even with prompting from faculty:</i></p> <input type="checkbox"/> Answers to the clarifying questions <input type="checkbox"/> Ability to formulate arguments and rebuttals to criticisms and/or skepticism about knowledge of literature, relevance of research ideas, or justification of research methods	<p><i>Demonstrates both but with considerable prompting from faculty:</i></p> <input type="checkbox"/> Answers to the clarifying questions <input type="checkbox"/> Ability to formulate arguments and rebuttals to criticisms and/or skepticism about knowledge of literature, relevance of research ideas, or justification of research methods	<p><i>Demonstrates both with little or no prompting from faculty:</i></p> <input type="checkbox"/> Answers to the clarifying questions <input type="checkbox"/> Ability to formulate arguments and rebuttals to criticisms and/or skepticism about knowledge of literature, relevance of research ideas, or justification of research methods	<p><i>Demonstrates both:</i></p> <input checked="" type="checkbox"/> Exemplary answers to clarifying questions <input checked="" type="checkbox"/> Consistently convincing arguments and strong rebuttals to criticisms or skepticism about knowledge of literature, relevance of research ideas, or justification of research approaches and tools

### Comments for the student on the Oral Exam.

Siyu 's presentation was clear and well-organized. She is clearly passionate about her proposed research. Her answers to questions were thoughtful and revealing! Siyu made efforts to apply the research methods learned from IST courses.

The committee made a few suggestions for Siyu to improve her literature analysis, methodology justifications, and some details in the experimental design. Siyu was reminded about potential flaws of using CA to generate data of human behavior data to be feed into LLM. There were concerns that certain aspects of commonsense reasoning and tacit knowledge might be lost without careful design.

**Final Overall Exam Evaluation:**  **X Pass**

**Pass subject to meeting conditions below**

**Fail**

Check the one that best describes your consensus evaluation:

Clearly fails to meet expectations

Does not quite meet expectations

Meets expectations

Exceeds expectations

Comments for the student on **Overall Exam**.

The committee unanimously recommended a "PASS" grade on Siyu's exam. She has been highly productive on publishing quality papers, and she has demonstrated superior capacity to conduct independent research. Siyu's skills in scholarly communication, literature synthesis, and critical thinking are outstanding.