From: lan Taylor itaylo19@students.kennesaw.edu

Subject: Thesis Faculty Advisor Inquiry
Date: July 28, 2025 at 3:13 PM

To: Tim Martin tmarti61@kennesaw.edu

Dear Dr. Martin,

I hope this message finds you well. I'm writing to ask if you would be willing to serve as my thesis advisor as I transition into the thesis track of the MSCS program. After reviewing the program requirements with the graduate coordinator, I understand I need a faculty advisor confirmed in order to proceed.

I was enrolled in your Advanced PSYC Lab class the summer of 2021, and you were very helpful. I have since graduated with a bachelor's of psychology, and I've only grown more interested in the computational modeling of the brain.

I'm particularly interested in a project that explores the intersection of cognitive science and artificial intelligence, tentatively titled *Modeling Aphantasia Through Embodied Cognition: EEG Patterns & ANN Simulations*. The idea is to analyze EEG data comparing aphantasic and control participants during mental imagery tasks, then design an artificial neural network that attempts to simulate or mirror the imagery process (or lack thereof), drawing on theories of sensorimotor simulation and enactivism.

If you're open to it, I'd love the opportunity to speak further and share a short summary or proposal draft with you. Please let me know if you might be available sometime in the coming days.

Thank you for your time and consideration.

Best,

Ian Taylor Graduate Student, M.S. Computer Science Kennesaw State University (770) 625-6774

LinkedIn I GitHub

From: Tim Martin tmarti61@kennesaw.edu
Subject: Re: Thesis Faculty Advisor Inquiry

Date: July 28, 2025 at 4:01 PM

To: lan Taylor itaylo19@students.kennesaw.edu

Hey lan,

Great to hear from you. Sounds like an interesting project. I have a few questions.

Are you allowed to have a thesis advisor outside of CS? I've been on thesis committees, but being the advisor implies you are my student, but I'm not in your department - hell, you're not even in my college .

Do you have a public EEG dataset in mind, or were you planning on collecting data? Aphantasia is super rare, so finding subjects would be tough if there's not already a dataset out there.

My other thought is that "embodied cognition" implies a body, but your sketch doesn't mention one. Usually AI people interested in embodiment use robots (i.e., Rodney Brooks). If you're only using artificial neural networks trained on EEG data, that's not really embodied.

I guess my last question is, how good of a technical programmer are you? My (admittedly limited) experience with AI programming is that AI can write code that is 99% there but won't compile, and finding the 1% bad code requires you to be a better programmer than just writing it from scratch, so either way this project would require some pretty advanced programming. Are you comfortable with ANNs already? I ask because I am not, so I wouldn't be able to save your bacon if you got into trouble. I can program experiments and really primitive ANNs, but the stuff you'd have to program for this project would be beyond my skill, so I hesitate to take something like this on as an advisor. What language are you using? Python? I'm mainly a C/C++ dinosaur, although I've done a tiny bit of Python.

Anyway, count me as open but skeptical. I could definitely be a committee member, but the advisor needs to be somebody who could help you with technical problems, and I would be limited there if you ran into coding issues. I'm not a programmer, I'm just a psychologist who plays one in the lab. I'd be happy to hear more about the project. I can definitely help you with EEG data issues.

cheers Tim

Tim Martin, Ph.D Associate Professor, Psychology Kennesaw State University Social Science Building Room 4011-A 1000 Chastain Road #2202 Kennesaw, GA 30144

From: Ian Taylor <itaylo19@students.kennesaw.edu>

Sent: Monday, July 28, 2025 3:13 PM
To: Tim Martin <tmarti61@kennesaw.edu>
Subject: Thesis Faculty Advisor Inquiry

Dear Dr. Martin,

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<u>LinkedIn I GitHub</u>

From: lan Taylor itaylo19@students.kennesaw.edu

Subject: Re: Thesis Faculty Advisor Inquiry Date: July 30, 2025 at 2:21 PM

To: Tim Martin tmarti61@kennesaw.edu

Good morning, Dr. Martin,

Thank you for your quick and thoughtful response; I really appreciate it.

I'll follow up with Dr. Shi about the possibility of interdisciplinary advisorship, and I'll also explore options within the College of Computing. At any rate, it would be exciting to have you as a committee member!

My current sketch is still very much up-in-the-air, but my focus is on applying computer science, particularly neural networks, to deepen our understanding of the brain. EEG feels like a good place to start; it's accessible and well-suited to studying phenomena like mental imagery. Working with public datasets like YOTO or OpenMIIR would probably be the easiest jumping-off point. I have little experience with using EEG data, and your help would be greatly appreciated.

Theoretically, I'm especially drawn to where cognitive embodiment includes temporal and contextual dimensions, not just physicality. In this way, modeling aphantasia or simulating imagery mechanisms seems inseparable from a timesensitive, embodied framework. A good example of this is a recent paper about a reasoning Al model that "thinks fast and slow" with two concurrent models: one that handles abstract concepts slowly, and another that handles decomposed computational tasks more quickly.

As far as programming goes, I agree that it would be somewhat more advanced than what I currently am capable of. Al-assisted programming has come a long way, but I think finding an advisor within the college to help with programming details would be best. Python would be my preferred language—there are a lot of existing libraries that can handle EEG data and provide building blocks for developing neural networks.

Looking forward to your thoughts as I continue shaping the direction of this endeavor!

Ian Taylor Graduate Student, M.S. Computer Science Kennesaw State University (770) 625-6774 LinkedIn I GitHub

From: Tim Martin <tmarti61@kennesaw.edu>

Sent: Monday, July 28, 2025 4:01 PM

To: lan Taylor <itaylo19@students.kennesaw.edu>

Subject: Re: Thesis Faculty Advisor Inquiry

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Tim Martin, Ph.D Associate Professor, Psychology Kennesaw State University Social Science Building Room 4011-A 1000 Chastain Road #2202 Kennesaw, GA 30144 tmarti61@kennesaw.edu

From: Ian Taylor <itaylo19@students.kennesaw.edu>

Sent: Monday, July 28, 2025 3:13 PM
To: Tim Martin tmarti61@kennesawedu

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LinkedIn I GitHub

From: Tim Martin tmarti61@kennesaw.edu
Subject: Re: Thesis Faculty Advisor Inquiry

Date: July 31, 2025 at 4:55 AM

To: lan Taylor itaylo19@students.kennesaw.edu

Sounds like a plan Taylor. Keep me updated.

cheers Tim

Tim Martin, Ph.D Associate Professor, Psychology Kennesaw State University Social Science Building Room 4011-A 1000 Chastain Road #2202 Kennesaw, GA 30144 tmarti61@kennesaw.edu

From: lan Taylor <itaylo19@students.kennesaw.edu>

Sent: Wednesday, July 30, 2025 2:21 PM **To:** Tim Martin <tmarti61@kennesaw.edu> **Subject:** Re: Thesis Faculty Advisor Inquiry

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