

Guidance on AI Program Naming

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Purpose

In this document, which was originally developed as a white paper, we justify and communicate guiding principles for the naming and organization of AI academic programs for Pitt. Intentionally coordinating the names of AI-related academic programs will ensure that learners and employers have a clear understanding of what our degrees deliver in this space. Practically, these naming principles should help avoid having programs with very similar names that unexpectedly deliver very different learning goals or deploying programs with very different names that unexpectedly have the same learning goals. This clarity will enable current and future students to graduate with the skills they need to thrive, while enabling all disciplines effectively and efficiently to integrate Pitt's cross-unit strengths in both technical – computing, mathematics, statistics, and engineering – and applied fields, including the sciences, humanities, and professional schools, as appropriate to the goals of the specific AI-related program. Guidelines for naming are an initial and enabling step to provide the shared language crucial to furthering cross-unit collaboration and coordination for AI. Through these naming conventions and the coordination, they will support, Pitt can create distinctive, complementary programs that amplify positive outcomes and value for learners, employers, and society.

The Unique Challenges of Preparing Students for AI Across Campus

There are five realities in AI that we must consider in planning, maintaining, and evolving curricula in this and related areas. First, the AI space is **heterogeneous**. AI refers to many different models and tools across disciplines and industries as well as being used to reference both the use of AI tools and the development of new AI-based simulations and systems. Second, the AI space is **interdisciplinary**. AI in its various forms, mixes some combination of computation, math, statistics, and engineering with, often multiple, discipline-focused questions, insights, and representations. The synergies between and closely coupled evolution of application areas and technologies are hallmarks of emerging digital innovations. Third, changes in AI tools, from Generative AI, especially LLMs, to AI-based Simulations and AI agents are **moving extremely fast**. New models and algorithms that alter what is possible – as well as introduce new challenges for responsible use – do not wait for semesters or academic calendars. The pace of innovation and competition in the AI-space is furious. Fourth, AI-related methods, algorithms, and tools are **everywhere**. Different AI-related advances now suffuse important work within almost all disciplines, propel many interdisciplinary discoveries, and are apparent across industries. We increasingly see teams from nearly every traditional applied discipline as well as fields that had in the past been associated with technology alone now collaborating to produce new algorithms and advances in many use-inspired application areas. Fifth and finally, AI-related methods are **complex**. They involve, to different degrees, non-linearity and deep interdependence across multiple scales and resolutions from parameters to people and silicon to society. In addition, this complexity challenges human understanding, planning, and governance of AI-related tools and applications.

Recognizing these realities guide the development of our principles for naming academic programs as we prepare our students for this quickly changing complex world across the university community. We suggest principles for naming programs as well as associated planning and organizing details to provide examples of distinctions across terms.

Those creating and naming programs should consider carefully and seek advice regarding which AI-terms are the best phrases to communicate the content and value of the program to prospective students and future employers moving forward. Since AI-related innovations and uses are likely to continue their deepening infusion across society and applications, there are and will be a growing number of branching distinctions between uses as well as connections with other terms. For example, when considering names for academic programs that include all or some steps of using data-based systems from planning, design, computation, application, and improvement, the terms data science, data analytics, or data analysis, could be more appropriate and enduring. The Director of the Hub for AI and Data Science Leadership (HAIL) is available for consultation. In addition, these unique challenges of AI do not supersede but are added to other considerations when justifying programs, including framing the intended audience and identifying competitive educational offerings.

Principles for naming

Names of programs should be composed to both provide information on the content of the academic program and credential as well as equally to discriminate the program from other current and future programs that could reasonably be expected. For discipline or domain-focused programs the composition of the name should have three components: an AI TERM, a LEVEL, and a FOCUS AREA if there is one.

- 1. Do not replicate programs that already exist, unless there is truly a need.*

Justifications of new programs should highlight why the program goals are meaningfully different from programs available elsewhere around campus. If the overlap between requirements of the proposed program and existing programs is partial, then partnerships should be incorporated where possible to avoid duplication. For example, the School of Computing and Information has adapted and evolved Python programming for humanities, the science, and other fields where there is a common non-duplicative core but with field specific exercises and applications. In addition, the Computational Social Science, Data Science, and Digital Narratives and Interactive Design majors each integrate courses across multiple schools to increase efficiency and avoid unnecessary duplication.

- 2. Communicate clearly what AI-skills, tools, and partnerships are learned in the title so the certification is legible to learners, employers, and collaborators.*

Since AI includes many heterogenous types of interfaces and systems, the most specific and appropriate term should be utilized within the program name that communicates to learners and employers what type of AI competency has been gained. Similarly, adopting and regularly revisiting guidelines around terminology in a confusing, fast-moving area like AI will help level

set and create a basis for shared understanding supporting cross-unit partnership and collaboration. An AI competency is not limited to modeling and programming of AI systems but also their application and use. For example, teaching learners how to responsibly utilize generative AI (or agentic AI), the term “Generative AI” (or “Agentic AI”) should be used instead of “AI.” This is particularly pertinent for terms like “Generative AI” which are often confused with the general term “AI.” Similarly, “Deep Learning” should be used as part of a program name if the training or application of deep neural network models themselves is what is taught and not other forms of AI. However, if the program targets the use of Deep Learning for a more specific purpose such as “Simulation-based Inference” (SBI) which involves uncertainty quantification and likelihood-free inference but not LLMs, then this more specific term should be utilized. We will refer to this as the AI TERM, which is the word or phrase in the title of the program that communicates its relevance to AI.

3. Communicate clearly the level of competency that the program certifies.

There should be a clear distinction between foundations, applications, and advances for programs (not necessarily for courses within programs). **Foundations level programs** should teach what relevant AI tools and systems are used in the FOCUS AREA if there is one, how those tools and systems can be understood and potentially used (with more instruction), as well as how to consider and evaluate ethical, legal, organizational, and societal responsibilities related to the use of these tools. Foundations are likely to be certificate or badged programs and not degrees. **Applications level programs** should teach how to responsibly create insights using the relevant existing AI methods, tools, and systems within the focus area. The focus should be on bringing together knowledge about real-world uses with the technology either in planning and design, downstream decisions or both depending on what is appropriate. In addition, this level of program should instruct students on how to evaluate the performance of applications using justifiable, formal, quantitative performance metrics as well as more informal, qualitative judgments of how the application is aligned with key principles and priorities of an organization or role that they are occupying. An applications level program might teach foundations level AI concepts directly or consider them a pre-requisite or co-requisite. Finally, **advanced level programs** should equip and develop students towards creating and advancing new relevant AI methods that propel disciplinary or inter-disciplinary insights. This level of AI program should also grow the learner’s ability to create new workflows and tools to evaluate the AI methods for responsible uses. All programs across these levels are likely to benefit from collaboration and coordination between units to be as effective as possible for our learners. In addition, the terms Foundations, Applications, and Advances can be modified to avoid ambiguity (eg Applied Deep Learning for Environmental Science instead of Applications of Deep Learning for Environmental Science) as long as the relevant level is clear.

These levels define the range of competency that the program certifies and not the pre-requisites for admission. For example, it is possible that an Applications level program could assume prior knowledge of foundations level competencies (pre-requisite for the program), teach foundations as a required part of the program (included in the program), or mix assumed prior knowledge with teaching the foundations as appropriate (with options available but not required for those that have prior experience). Since it will become too unwieldy to encode both starting requirement and ending learning goals in the name, potential programs should be clear in their content about the onramps and requirements for the target audiences for the program.

4. *Communicate clearly the domain, discipline, or interdisciplinary scope of the competency that the program certifies.*

Since AI is everywhere, as a university we need to leave naming channels open for new innovations, collaborations, and programs in the future. It is not in a learner's or employer's best interest to have many degrees scattered across Pitt that all are vaguely named Artificial Intelligence, Generative AI, or Deep Learning or similar phrases even at a given foundations, application, or advanced level. This could lead to students wasting time in degrees that are not aligned with their interests and aspirations as well as employers not hiring our learners even when they have specific valuable skills. Programs and their curricula may also quickly become out of date, leading to confusion and lack of necessary knowledge and skill development implied by a term in a fast-moving area like AI. Thus, the program name should spell out the focus-area clearly and be as specific as is meaningful. The focus-area does not need to be a recognized discipline but could be a multi-disciplinary focus area (e.g., Certificate in Advanced AI-based Simulation for Climate Prediction). While we understand the current marketing motivations for the inclusion of the term AI in particular, the chosen name should authentically reflect the content that integrates AI into the focus area.

Together these principles lead to a naming convention as described in Table 1 (see below). It is important to note that these principles are suggested to be additional guides and not substituted for non-AI specific principles including that programs should be named and organized such that they are competitive within the educational markets they will operate.

Justifying Proposed Names When Principles Are in Tension

In practice, there can be tension between different principles leading to a specific proposal seeking to justify a name that is not aligned with these guidelines. For AI-related programs, an explanation of tensions and a justification for how they were resolved in the proposal should be provided.

	What is it?	How have other used it/examples?	What are the relevant ethical, legal, organizational, and societal responsibilities of AI creation and/or uses?	How do you responsibly apply the relevant AI in the relevant context/domain?	How do you evaluate performance of the application based on formal metrics and qualitative judgments informed by relevant domain expertise?	How do you develop new AI methods to advance disciplinary/inter-disciplinary questions?	How do you develop new workflows and tools to evaluate new AI methods for responsible uses?
Foundations of AI TERM in/for _____	Y	Y	Y				
Application of AI TERM in/for _____	*	*	Y	Y	Y		
Advancing/Advanced AI TERM in/for _____	*	*	Y	*	*	Y	Y

Y covered/required for the program level; * denotes pre-requisite, covered, or some combination (see #3 above). Order of Level, AI-term, and focus-area can be adjusted as needed.

Appendix

FAQ for Guidance on AI Program Naming

01/09/2026

Drafted by Michael Colaresi (with input from Bruce Childers)

Q0: What does AI mean in this context?

A0: Artificial Intelligence (AI) here refers to a heterogeneous and quickly evolving set of tools that can vary across fields. These terms include, but are not limited to, Generative AI (GenAI) systems, Agentic AI, Deep Learning neural network architectures, Large Language Models (LLMs), and Simulation-based Inference/Likelihood-free inference. The term here is not meant to be synonymous with Artificial General Intelligence (AGI).

Q1: Does this document create new formal policies or just guiding principles around naming programs related to AI?

A1: This guidance lays out principles and not formal policies. The appropriate Vice Provost, committee responsible for program naming, and the Provost will continue to have final say over approvals.

Q2: Does this document simply refer to the naming of programs or to the content of the programs?

A2: Since the naming of programs should reflect the content of the programs the guidance is germane for both. For example, even if there are different names for a proposed program and an existing program – but the program content overlapped to a significant degree -- the new name should not be deployed for that same content. Additionally, if the programs content are distinct, then the names should communicate that distinction.

Q3: Is this document only targeted to technical disciplines that teach how to build AI models and systems?

A3: No, this document is germane for applied disciplines where AI models and systems might be used as well as more technical disciplines. One goal of the document is to facilitate appropriate cross-unit collaboration that creates the best experience for our learners.

Q4: Why is AI any different from other topics?

A4: The guidance relays that AI includes several unique challenges for teaching and programs including that it is everywhere, quickly changing, heterogeneous, complex, and interdisciplinary. As such, program proposals, should explicitly grapple with these attributes for their intended program and audience. This does not mean these are the only challenges that should be addressed in a proposal. For example, marketing and considerations of success for the program are still necessary to justify.

Q5: What are some examples of program names that would be consistent with these guiding principles?

A5: If a program is teaching learners the foundational uses of GenAI tools for marketing, then a name such as Foundations of Generative AI for Marketing or something similar should be proposed. Alternatively, if applications of more general neural network-based technologies and architectures are what are taught in a program focused on social science use-cases – which might include not only Generative AI but other technologies including dashboards informed by transformer-based forecasting techniques, then a name such as Applied Deep Learning for Social Scientists would be appropriate.

Q6: The guidance lists a series of guiding principles. Are these the only principles by which AI-relevant program names and content will be judged relative on?

A6: No, the document attempts to make clear that these principles are in addition to and not instead of other important principles – such as the likelihood of success for marketing the program and naming offerings in a manner that is consistent with relevant employers' expectations.

Q7: What if some of these guiding principles are in conflict with each other or the proposer's vision for success?

A7: There is a section in the guidance on how to justify and communicate in the proposal any contradictions and tensions as well as how they were resolved. This is one reason that the guidance lays our principles and not a formal policy.

Q8: Can different formulations of the levels, AI-specific terms, and focus areas be used?

A8: Yes, as long as the content, level, and focus remain clear. For example, using “Applying...” or “Applied...” instead of “Applications of ...” or “Application of ...” are usually synonymous. Similarly, “Advanced...”, “Advances in...”, “... Advances”, and “Advancing...” are also usually substitutable depending on the intentions and framing of the program. Finally, “Foundations of...” and “... Foundations” would also closely align with the guiding principles on communicating levels.

Q9: Who can I contact if I have questions about these principles as I begin to design an AI-related program.

A9: Please reach out to Michael Colaresi at mcolaresi@pitt.edu who is a Strategic Advisor to the Provost and Director of the Hub for AI and Data Science Leadership.