Summary of “AI Faculty Shortages: Are U.S. Universities Meeting the Growing Demand for AI Skills?”

The U.S. university system is the engine that drives the AI talent pipeline, but mounting evidence suggests universities do not have enough faculty to meet students’ growing interest in AI. These “teaching capacity gaps” may hamper the country’s ability to develop a robust technical workforce, alter the trajectory of AI research, and ultimately hurt economic and national security.

This report explores the potential mismatch between faculty supply and student demand in AI education, discusses its causes and consequences, and presents policy changes that could help increase AI teaching capacity at U.S. universities. It is difficult to quantify AI teaching capacity due to a lack of comprehensive data and the interdisciplinary nature of the field, so the report uses trends in computer science (CS) departments as a proxy for AI.

Over the last decade, enrollments in CS programs have far outpaced the expansion of CS departments, universities have started restricting access to CS courses, and academic leaders have expressed concerns that they cannot hire enough instructors to meet growing student demand for AI education. Many policymakers attribute this gap in teaching capacity to private companies poaching university faculty and hiring away PhD graduates who would otherwise pursue academic careers, but there is limited evidence to support these claims. However, available data suggests that organizational and budgetary constraints are limiting universities’ ability to increase faculty numbers in line with student demand.

Federal policymakers can help universities address teaching capacity gaps in a variety of ways, such as creating programs for faculty hiring, supporting new grants and fellowships, and fostering new collaborations between academia and industry. However, these measures must take into account the unique economics of academia and balance the often-clashing priorities of research and instruction. Additional research into the scale and scope of teaching capacity gaps will also be critical to crafting targeted policies to address them.

For more information:
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