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AI Sprint Grant: AI for Teaching & Learning Past Recipients [1]

Spring 2026 Recipient Details

Recipient	Campus	Project Title and Description	Amount
Carsten Görg	CU Anschutz	**Teaching AI-supported Data Science Programming** Rather than writing code line by line, code can now be generated through LLMs in the same way they can generate text – the user now interacts iteratively as an active coding partner specifying structure and logic. Industry and academia are adopting these tools at a rapid pace, and our students need to learn how to use them effectively to stay competitive in the job market. However, without experience or an extensive knowledge base, users may not be able to determine the validity of the code. We propose to develop an additional segment for the R for Data Science course to teach students skills for AI-supported programming. The proposed work will also create a template for introducing these skills into additional courses our department offers.	$20,000

Marcelo Perraillon CU Anschutz $20,000

Applied Artificial Intelligence for Medicine and Public Health

This project supports the delivery of a new 3-credit course (HSMP 6635) that provides public health, medical, and doctoral students with an introduction to modern artificial intelligence that covers both how the technology works and how to use it in research and practice. The course addresses a gap at the Anschutz campus: health professionals increasingly encounter AI tools, but few formal training opportunities cover how these tools work and how to apply them in medicine and public health. Adding AI modules to existing courses is insufficient because effective use of AI tools requires a conceptual and practical foundation that is too broad for a single module to cover. HSMP 6635 covers AI from foundational LLM and GenAI concepts to practical applications in literature review, data analysis, document summarization, and data visualization. Modules on the potential impact of AI on jobs and the environment, as well as ethical and practical considerations are also included.

Noah Finkelstein CU Boulder $19,669

Teaching Validation of Knowledge and Knowing

We will create a series of scaffolded uses of generative AI tools (LLMs) to sequentially develop students' capacity to verify and validate outcomes of both their own work and the work of others, including AI in the gateway course Physics 2170: Modern Physics. Beginning with prompting (description tasks for AI), and then delegation tasks (assigning work to AI), the students will be supported in developing their capacities for discernment (verifying, refining, and validating) materials, processes, and outcomes. A cornerstone of the approach will be student- and AI-developed and validated simulations of physical phenomena. Assessment of student outcomes will include measures of content learning, capacities for using AI to support learning, ability to validate claims/outcomes, modeling of physical systems, and interest, identity, and affect around the use of AI. The approaches developed here will be directly translatable to other physics courses, adaptable across STEM fields, and the broader curriculum at CU.

Debanjan Mukherjee CU Boulder $20,000

From Interaction To Understanding: Inferring Learning Intent In Generative AI-Mediated Education

GenAI chat platforms can enable students to engage in both deeper learning and understanding, and more superficial solution harvesting. Identifying learning intent, and empowering deeper learning engagement, can help move students from AI-enhanced performance via solution seeking to more durable AI-enhanced understanding. We propose to develop a quantitative learning intent analytics platform named CLIO-AI (Conversation-based Learning Intent Observations in AI). CLIO-AI seeks to parse and interpret multi-turn student–AI conversation logs and compute an interpretable learning intent score. The CLIO-AI framework will be developed and implemented in the fluid mechanics curriculum within the Mechanical Engineering department. The resulting CLIO-AI framework will be developed in a modular, extensible manner–deployable in other STEM classes across campuses.

John Ploumitsakos CU Boulder $20,000

AI-Powered Sales Cycle Simulation for Professional Selling

This project will develop an AI-powered simulation platform that enables students in Fundamentals of Professional Selling to practice the complete B2B sales cycle inside a unified CRM-style dashboard with a context-aware AI assistant. The platform builds on a validated AI Prospecting Project (approximately 150 students, two semesters, nominated for the Best Teaching Application Award at the 2026 National Conference on Sales Management). It extends that project into discovery, presentation, objection handling, negotiation, and relationship management. AI-generated buyer personas simulate realistic conversations at each stage, and automated feedback ties directly to course learning objectives. The platform is modular and adaptable across disciplines.

Ravinder Singh CU Boulder $20,000

AI-Enhanced Adaptive Tutoring for Conceptual Mastery in Personalized Medicine

The time for personalized tutoring is now, by placing the learner at its center. This project seeks to create a faculty-governed, evidence-generating model of AI-supported tutoring. AI will be used for adaptive practice, formative feedback, proactive support, and instructor augmentation, not to replace faculty judgment or automate summative assessment. If successful, it will yield a reusable course template, implementation pattern, and evaluation framework that can be adapted across courses and disciplines.

Robert "Bud" Talbot CU Denver $19,955

An AI-Powered Pedagogical Coaching Chatbot for Undergraduate Learning Assistants

This project proposes to develop and deploy a custom AI-powered pedagogical coaching chatbot (“LA Assist”) in SCED 4050/5050, the required pedagogy workshop for undergraduate Learning Assistants (LAs) at CU Denver. LA Assist will be grounded in a curated knowledge base of peer-reviewed learning theory literature, a detailed system prompt aligned with course objectives, and a structured user guide. Embedded in the workshop, LA Assist will support LAs in applying learning theory to their facilitation practice, structuring reflective thinking, and developing their pedagogical reasoning between class sessions. The goal is to measurably improve LAs’ performance on core workshop learning outcomes: theory-practice integration, facilitation quality, and reflective depth all while helping undergraduate STEM students succeed in LA-supported courses.

Dennis DeBay and Josie Smith	CU Denver and UCCS	**MAPPED: Mapping AI Pedagogy for Practitioner Educator Development** MAPPED (Mapping AI Pedagogy for Practitioner Educator Development) is a focused cross-campus partnership centered on one course at CU Denver and one course at UCCS. The project centers AI literacy by embedding two theoretically grounded innovations directly into classroom practice: a competency-based AI chatbot designed to help teacher candidates reason more deeply about teaching and a structured reflective framework called the AI Boundary Map designed to help candidates think critically about what AI should and should not do in their professional practice. The goal is not to help teacher candidates use AI more, but to use it better and build principled professional judgment.	$18,250

Diana White and Pamela Whitten	CU Denver	$19,102

Using MathGPT.ai to Enhance Student Success in Calculus

This project will integrate MathGPT.ai into Calculus I at CU Denver to address high rates of unsuccessful course completion in a key gateway course for STEM and other quantitatively intensive fields. MathGPT.ai is a textbook-aligned, mathematics-focused AI tutor designed to provide scaffolded support, guided questioning, and feedback that emphasizes reasoning rather than answer delivery. A quasi-experimental design will compare outcomes both to prior semesters taught by the same instructors and to a same-semester comparison section not using MathGPT.ai. Primary outcomes will include final exam scores and overall course scores, which will be analyzed using linear regression, along with platform usage data to examine associations between engagement and performance. The project aims both to improve student success in Calculus I and to generate practical local evidence about whether a structured, course-aligned AI tutoring system can support learning in high-enrollment gateway courses.

Patrick McGuire UCCS $13,605

Human-First AI Integration in Teacher Preparation: Adapting the “AI Sandwich” Model in an Elementary Math Methods Course

This proposed project will design, implement, and study a human-first “AI sandwich” instructional model in IELM 4025, an elementary math methods course required for preservice teachers (PSTs) during their final year of our teacher preparation program. In this model, AI use is intentionally sequenced (or sandwiched) between human-centered learning experiences. PSTs first engage in inquiry-based mathematical problem solving and discussion without AI, then use AI in potential misconceptions, and finally return to collaborative discussion to modify their instructional decisions. The purpose of this project is to evaluate whether and how strategically constrained AI use improves PSTs’ core pedagogical practices and produces measurable gains in student performance. Findings will inform a replicable, human-first framework for AI integration in teacher education, with potential for broader application across other disciplines and CU campuses.

Phillip Haisley UCCS $15,029

AI-Enhanced Role-Play for Disciplinary Ethics

This project develops and deploys AI-enhanced interactive role-play simulations in an advanced grammar course to bridge the gap between technical grammatical knowledge and ethical professional practice. Students engage in career-track role-plays where they navigate real-world dilemmas involving linguistic justice, the ethical questions surrounding language variation, dialect, and “standard” English in professional settings. An AI system synthesizes class responses into composite narratives that become objects of structured reflection and discussion. The project targets two course learning outcomes: understanding prescriptivism and descriptivism in relation to English dialects and developing a personal philosophy of grammar for professional life.

Kristen Vandenberg UCCS $10,618

Clinical Decision Validation in Advanced Child and Adolescent Psychiatric Practice

This project will implement a structured AI-supported Clinical Decision Validation Protocol within NURS 6803 to strengthen diagnostic reasoning and child/adolescent prescribing safety. Students will complete independent case analyses and then use a secure platform, UpToDate/ UpToDate Expert AI, to compare and refine their decisions. This project builds upon prior scholarly work examining the integration of UpToDate into graduate nursing education and extends that work into AI-supported clinical decision validation. Outcomes will be evaluated qualitatively through analysis of pre- and post-calibration narratives and student reflections to identify shifts in clinical reasoning and bias awareness.

Groups audience:
Office of Academic Affairs

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