



METALS Capstone Projects: Educational Technology Master Students Redefine Teaching and Learning

The Opportunity: Carnegie Mellon’s Masters in Educational Technology and Applied Learning Science (METALS) students complete an eight-month project creating or improving your company’s product. Our students apply the latest evidence-based scientific principles and methods and employ advanced learning science technologies such as artificial intelligence, machine learning, natural language understanding, ubiquitous computing, and/or educational games.

Student Teams @ Work



Example projects may include the prototyping of a design for:

- an e-learning course, module, educational game, simulation, or intelligent tutor
- automated essay grading, peer grading, open-ended grading using machine learning
- computer-based formative assessment or adaptive placement
- collaborative learning support
- tools for understanding learner analytics and educational data mining such as a teacher toolkit
- a video coaching platform for k-12 educators
- formative and summative evaluation of an existing e-learning course toward generalizing to a broader continuous improvement program

Affinity Diagramming



Team: 4-6 master students with 2 faculty advisors, industry mentors, and subject matter experts.

Project Effort: Approximately 2 person years.

Project timeline: Eight months - January to August. 4-6 students; 1/3 time in the spring (Jan - May) and full-time in the summer (May - Aug). Faculty 1-2 hours/week.

Project cost: \$80,000 includes student travel and overhead.

Value: Cutting edge product design, high fidelity prototype, low cost, access to world-renowned faculty, employee recruitment, company visibility as project sponsor using Carnegie Mellon research and technology. Students have strong interdisciplinary backgrounds including classroom instruction, user centered design, human factors research, cognitive task analysis, educational psychology, statistical analysis, and software development.

Experienced Faculty: Dr. Ken Koedinger, Dr. John Stamper, Dr. Bruce McLaren, Dr. Vincent Aleven, Dr. Carolyn Rose

Contact: Michael Bett (mbett@cs.cmu.edu, 412-268-8616) or Ken Koedinger (koedinger@cmu.edu, 412-268-7667)

<http://metals.hcii.cmu.edu>

Process Modeling

