Exploring AIs for Teaching at Brandeis

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Key concepts

- **AI** (Siri, Alexa, various bots for chatting with sales people) and software with AI components (Grammarly):
  - can be both rule-based (where explicit rules are programmed) and machine learning-based (where algorithms learn patterns from data).

- **Generative AI**: "computer systems that can produce … various forms of traditionally human expression, in the form of digital content including language, images, video, and music" (MLA/CCCC Working Paper, 2023).

- **AGI**: artificial *general* intelligence = stuff of science fiction

Some starting points for thinking about AI in teaching

- Should we learn what is already happening in our disciplines? How are genAIs affecting the work in our fields - positively and negatively? What guidelines do our fields have?

- Do we need to rethink our epistemologies and engage with colleagues and students in serious epistemological conversations?
  - e.g., what is creativity in the age of GenAI? what is integrity? what is authorship?

What is creativity?

What is authorship?

Some starting points for thinking about AI in teaching

- Our students will be shaping the AI world → do we have an imperative to give them **moral reasoning capabilities** so that they can **use** these tools ethically and responsibly?

- Machines are no longer instruments; should we think about the education and the future world in terms of *human-machine collaboration* (Human Intellect + Artificial Intellect)?

- Should we rethink what it means to be a student today?
  - Students as autonomous subjects before; today they are *networked subjects* and *humans with augmented skills.*

Sid Dobrin, Professor of English,
University of Florida

Some starting points for thinking about AI in teaching

"Like writing and coding before it, prompt engineering is an **emergent form of thinking**. It lies somewhere between conversation and query, between programming and prose. It is the one part of this fast-changing, uncertain future that feels distinctly human."

Charlie Warzel, " [The Most Important Job Skill of This Century: Your work future could depend on how well you can talk to AI"](#) the Atlantic (Feb 8, 2023)

Recommended reads

- [MLA and CCCC Task Force on Writing and AI](#)

- Minerva Project's White Paper, *[Integrating Artificial Intelligence: Key Strategies for Higher Education](#)*

- *[Sixty ideas for ChatGPT assignments (UCF)](#) (created by faculty for faculty)*

Some starting points for thinking about AI in teaching

- Detection tools: unreliable, dangerous (?), biased;
- Detection based on our expertise: unreliable, time consuming, uncomfortable (?)

- Should we move the focus of conversations from integrity to quality/authentic/innovative/multimodal assessments?
- Do we need to rethink our approaches to assessment, task design, and grading?
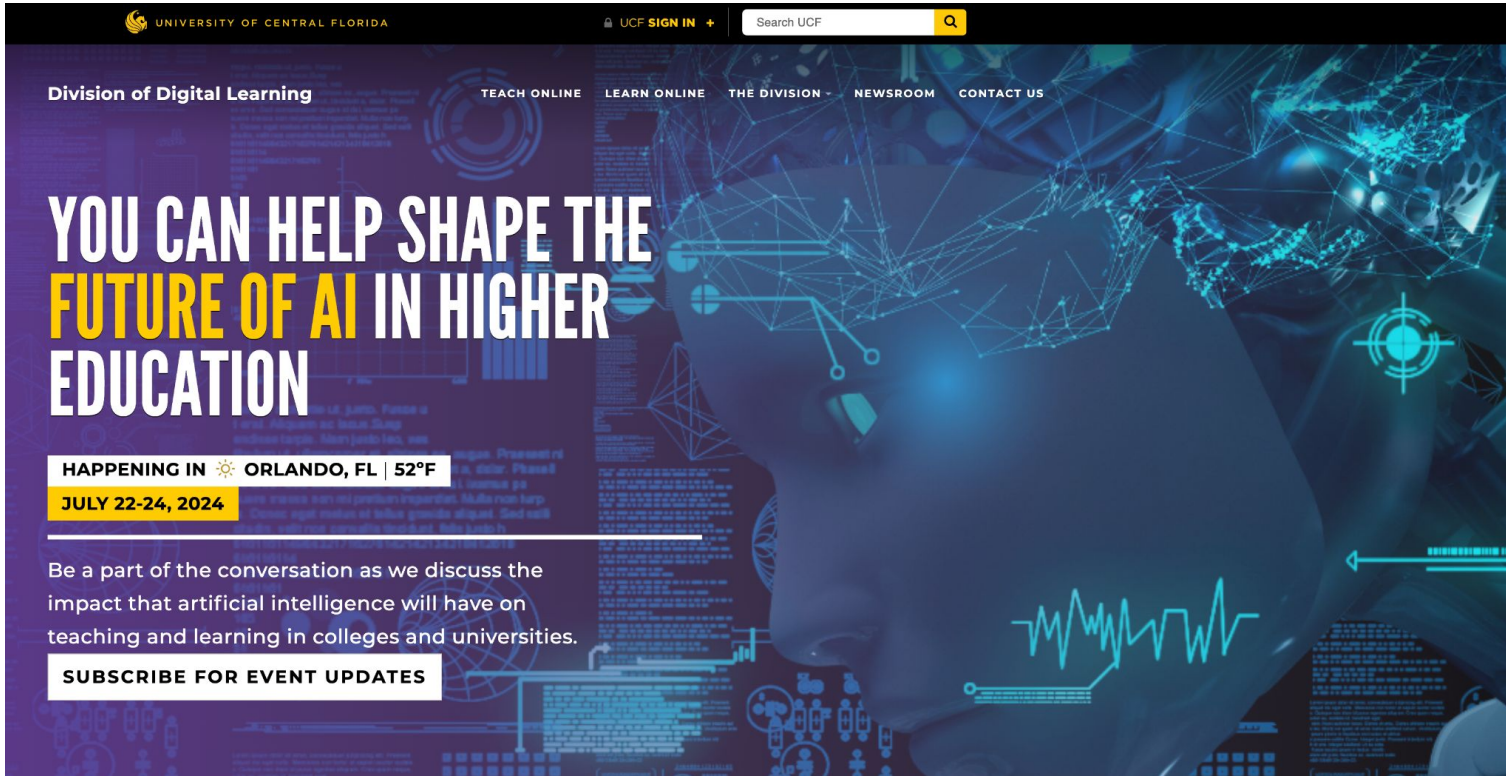
How should faculty respond to AIs

- Educating yourself before educating students: how do these tools work in your discipline?

- Communication with students: regular conversations with students about why we want them to do a particular assignment and what we are looking for

- Redesign traditional tasks so as to deter students from going to AIs

- Change and adapt grading approaches:
  - Use rubrics for evaluation (process over product)
  - Ask students to have some kind of an AI attestation form with every written assignment
  - Introduce writing for benchmarking: ask students to submit writing samples produced in-person by hand

- Consider incorporating GenAI tools in assignments and teach students GenAI literacy as well as ethical and effective uses of these tools

Other uses of gen-AIs in Higher Ed

- ● AIs supporting students
  - ○ Helping students practice and prepare for assessments
  - ○ Differentiated tasks for learning accommodations or multi-level classrooms
  - ○ Develop student study skills

- ● AIs supporting faculty
  - ○ Differentiating instruction for learning accommodations or multi-level classrooms
  - ○ Creating and/or refining lesson plans
  - ○ Creating case studies and/or learning scenarios
  - ○ Modifying test questions
  - ○ Creating or designing evaluation rubrics

Teaching and Learning with AI

Generative AI

- LLMs (large language models) and one LLMs is called ChatGPT ("generative pre-trained transformer")
  - uses probability calculations to predict what the next word is
  - "trained" on vast bodies of preexisting text
  - all of the text a model generates is original (i.e., it represents combinations of letters and words that generally have no exact match in the training documents); the content is unoriginal (i.e., it is determined by patterns in its training data)
  - the same model can generate different sequences in response to the same input prompt
  - LLMs **do not** *think*; they **predict** and can mimic the writing/thinking of sentient humans fairly convincingly.