CLARK UNIVERSITY

CHALLENGE CONVENTION.
CHANGE OUR WORLD.

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Currently, I engage in foundational work in machine and assembly language, transitioning from LC-3 to C++ (based on the Patt/Patel approach). My focus spans theoretical system design, its practical re-engineering, and STEM technical communication. In Spring 2023, I had the honor of authoring a data mining course for www.utk.edu.

My pedagogical approach prioritizes active learning, utilizing bespoke interactive frameworks through Google Sheets, Github, and Colab. Like bee festooning or forming chains to repair and branch, students similarly festoon in collaborative JAM sessions, connecting ideas and aiming for tangible career readiness from day one.

Central to my teaching philosophy is the new.REAL paradigm, an embodiment of the Lacanian real. Education is a performative act, lived and crafted, not just passively consumed. Drawing from Arthur Kroker's concept of 'body drift' — the blend of humanity with technology — and Foucault's active knowledge structures, this paradigm challenges traditional passive learning. Students don't merely absorb; they actively shape, create, and immerse themselves, echoing Baudrillard's simulacrum, where education isn't just symbolic but a tangible, actionable commodity. This paradigm aims to showcase their immediate skills and value.

To augment classroom learning, I use GPT APIs to,

A. Summarize the audio lecture and lecture notes.
B. Identify and synthesize disparities between audio lectures and lecture notes.
C. Email outcomes and then aggregate all media into a central repository.
D. Harness substrate for bespoke AI.agent development, enabling students to pose intricate curriculum-related queries for precise answers.
E. #=> This reflects my dedication to further accessibility and generating sustainable learning paradigms with knowledge formed through interactive learning structures.

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festooning bees mending

stabilimentum zigzag: decoration, deterent, or warning?

instructor.brian's Lecture thematic

Melittologic and arachnids, mainly honeybee and orb-weaver spiders, inspire my adaptive learning approaches and serve as an ongoing lecture thematic to help bridge students to higher principal thinking by understanding creature visual, cooperation, and structural adaptations such as

- A worker bee signals a sentry to clean a mite instead of infecting the hive indicating health consciousness, unity, and collective intelligence.
- Spiders weave adaptive stabilimentum patterns to decoy from a predator's perception and even cloak their abdomen or cephalothorax in plain sight.

Arachnids => Antipredator strategies and visual asecthics

Robledo-Ospina, Luis, et al. Visual Antipredator Effects of Web Flexing in an Orb Web Spider, with Special Reference to Web Decorations. *Die Naturwissenschaften* 110.3 (2023): 23. *ProQuest*. Web. 18 Aug. 2023.

Abstract Some visual antipredator strategies involve the rapid movement of highly contrasting body patterns to frighten or confuse the predator. Bright body colouration, however, can also be detected by potential predators and used as a cue. Among spiders, Argiope spp. are usually brightly coloured but they are not a common item in the diet of araneophagic wasps. When disturbed, Argiope executes a web-fexing behaviour in which they move rapidly and may be perceived as if they move backwards and towards an observer in front of the web. We studied the mechanisms underlying web-fexing behaviour as a defensive strategy. Using multispectral images and high-speed videos with deep-learning-based tracking techniques, we evaluated body colouration, body pattern, and spider kinematics from the perspective of a potential wasp predator. We show that the spider's abdomen is conspicuous, with a disruptive colouration pattern. We found that the body outline of spiders with web decorations was harder to detect when compared to spiders without decorations. The abdomen was also the body part that moved fastest, and its motion was composed mainly of translational (vertical) vectors in the potential predator's optical fow. In addition, with high contrast colouration, the spider's movement might be perceived as a sudden change in body size (looming effect) as perceived by the predator. These effects alongside the other visual cues may confuse potential wasp predators by breaking the spider body outline and afecting the wasp's fight manoeuvre, thereby deterring the wasp from executing the fnal attack. Keywords Deimatic displays·
High-contrast visual cues· Secondary defensive strategies.

Stabilmentum

A **stabilimentum** (plural: **stabilimenta**), also known as a **web decoration**, is a conspicuous silk structure included in the webs of some species of orb-web spider. Its function is a subject of debate.

Baltimoreandohiorr(2019), https://www.youtube.com/watch?v=kNzg0PCVMqk

https://en.wikipedia.org/wiki/Stabilimentum

1. Festooning bees from Wildflower Meadows. Retrieved from: www.wildflowermeadows.com