Artificial Intelligence Workshop AGENDA

December 13, 2024 / Information Technology High School, NYCPS Jack Powers / Institute for Career & Technical Education / JPowers@ICTE.us

For a broad overview of the technologies and opportunities around Generative Artificial Intelligence, we'll examine three broad applications of AI, explore the impacts on thinking, learning and communicating, and debate relevant ethics and values concerns that confront makers and users of intelligent systems.

THE AI LANDSCAPE

- 1. Where did AI come from?
- 2. Who built it?
- 3. Who uses it?
- 4. Where's it going?

INCLUDING: Expert Systems, Machine Learning, Large Language Models, Generative Pre-trained Transformers (GPTs), Google, Microsoft, OpenAI, GPT, Meta, Anthropic, xAI, Advanced General Intelligence (AGI).

concerns: Authority, Copyright, Originality, Creativity, Intent, Bias, Moravec's Paradox, Englishcentric, Internet-centric, Al Safety, Artificial Superintelligence (ASI).

TEXT CHATS WITH LARGE LANGUAGE MODELS

LLMs can create brand new texts, analyze and revise existing texts, and even re-write texts in different voices, formats, and media.

- 1. How, where and why to Chat?
- 2. When to trust the output?
- 3. How to engineer a prompt?
- 4. How does Training Data, Fine-Tuning and Reinforcement Learning from Human Feedback (RLHF) affect the LLM?

INCLUDING: OpenAI's GPT-4, Microsoft Copilot in Edge, Anthropic's Claude, Usage Standards, Content Restrictions.

CONCERNS: Creativity, Cliché, Hallucination, Confabulation, Sycophancy, Bias, Restricted Use, Un-Copyrightable.

GENERATIVE AI ART

For graphic communicators and media creators, Generative AI Art can help create, revise and prep images for production.

- 1. Where to start with text-to-image and image-to-image?
- 2. How to copy prompts and iterate imagery?
- 3. How can Generative Fill, inpainting, and outpainting build an image?
- 4. When to stop prompting and just fix it in PhotoShop?
- 5. What's on the horizon for text-to-video?

INCLUDING: Reversing Prompts, Learning Each System's Vocabulary, Building a Generative Copybook, Avoiding the Al Stench.

CONCERNS: Crediting Original Work, Creative Intent, Bias, Restricted Content, Deep Fakes, Unnatural Beauty.

AI CODING WITH COPILOTS

Since LLMs have scraped all the text and code from the Internet, they are being adapted to augment or even bypass manual coding as "copilots" in software tasks like HTML coding, JavaScripting and Python apps.

- 1. How do I pass my code to a copilot?
- 2. What kinds of coding are most adaptable?
- 3. Can Al copilots clean or modernize old code?
- 4. Do copilots improve code efficiency?

INCLUDING: Iterative Programming, Code Compliance, Creativity, Revisability.

CONCERNS: Program Ownership, Cybersecurity, Network Access, Agentic Al.

CAREERS IN AN ARTIFICIALY INTELLIGENT WORLD

- 1. Will Al displace or augment creative jobs?
- 2. What skills are needed in Al-enabled businesses?
- 3. Where does a prompt start?
- 4. What talents are needed when every company has artificial intelligence?