

Speaker Series

The Future of Careers with and in AI

with Tim King

Previous AI related presentations:

AI will replace you, if you let it ICTC

&

Careers of the Future with ICTC, NGEN & Chatterhigh

My Current Context: I am a seconded teacher

After 20+ years teaching in Ontario classrooms, I suddenly find myself teaching cybersecurity nationally!

<https://ictc-ctic.ca/>



... and then things got accelerated!

<https://www.quantumalgorithmsinstitute.ca/>



ICTC  CTIC

My Current Context

If you enjoy travel, technology can make it happen...



The world beyond the classroom

- There is a shortage of **digitally skilled** people in the workplace
- That shortage is especially acute in emerging fields such as **AI & quantum computing**
- And in intersectional fields of study like **cybersecurity, geomatics, GIS and mechatronics** (and many more).

“Quantum is not vertical, it’s horizontal. Like AI, it is going to have an impact on everything.”



How did I get my students into AI?

It started in our game dev class in 2015 and expanded in 2017!

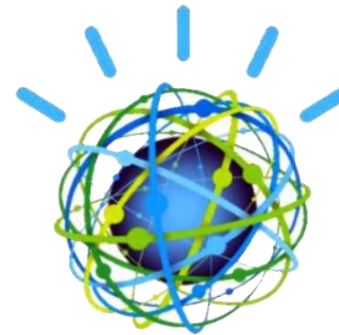


Since 2016 [in grades 11-12: Game Dev](#) building enemy AI



GitHub Copilot

2022 [in grades 11-12](#) AI assisted coding



IBM Watson

Exploring **artificial intelligence** in your classroom?
It's easier than you think!

2018 on [in grade 10](#) coding chatbots

Digging deeper

Exploring the technicalities of large data set management and AI integration



Razz is now at Carleton studying geomatics and computer science. They did a coop project that taught us both a lot about AI, data cleaning and the fundamentals of machine learning.

Don't worry, AI will make more jobs that it destroys!

Well...

“AI's impact will vary across different sectors - **46% of tasks in administrative & 44% in legal professions** could be automated but only **6% in construction 4% in maintenance**”

“Consider the introduction of GPS technology and platforms like Uber. Suddenly, knowing all the streets in London had much less value - and so incumbent drivers experienced large wage cuts - the result was lower wages, not fewer drivers.”

<https://www.bbc.com/news/technology-65102150>

“AI could create **58 million jobs**, which is significant but not enough to negate the **375 million jobs it will remove** over the next ten years.”

<https://www.zippia.com/answers/will-ai-create-more-jobs-than-it-destroys/>

What has teaching AI taught me?

Everyone needs to learn how to use it and to use it you need to understand it...

How to thrive in AI

NONTECHNICAL

- Understand what it is
- Work with it (develop this new media fluency!)
- Leverage your human strengths
- Consider work that isn't automation friendly
- Consider how AI will influence your field of interest and be ready for it

What has teaching AI taught me?

Everyone needs to learn how to use it, technical types need to learn how it works

How to thrive in AI

TECHNICAL

- Understand what it is
- Work with it in many forms
- Learn its use cases and focus on those cross overs
- Learn how to build it
- Learn where it is in terms of evolution (and get in front of it)
- Find where it isn't working and develop those technical specialities

So, what is artificial intelligence?

Well, it isn't intelligent...

A must read: <https://www.wired.com/story/artificial-intelligence-fiction-philosophy-consciousness/>

by Dr. Hannah H. Kim, Professor of Philosophy at Macalester College

“ChatGPT—which is currently not capable of agency because it is a large language model that assembles a statistically likely configuration of words— (it) can only reproduce words that **sound** like threats.”

... or answers to your questions.

So, what is artificial intelligence?

Well, it isn't intelligent...

What we have now is less artificial intelligence than it is a brute force statistical computing trick that we apply the intelligence to, so it takes on meaning - we give it that meaning.

<https://www.oneusefulthing.org/p/embracing-weirdness-what-it-means>

*“we created software that does a seemingly good job thinking and acting like a human (**even though that is mostly an illusion**). And this strange software has strange capabilities that are undocumented and not fully explored”*



OPPORTUNITY!

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The Mechanics of A.I.

BY STEVEN LEVY BACKCHANNEL

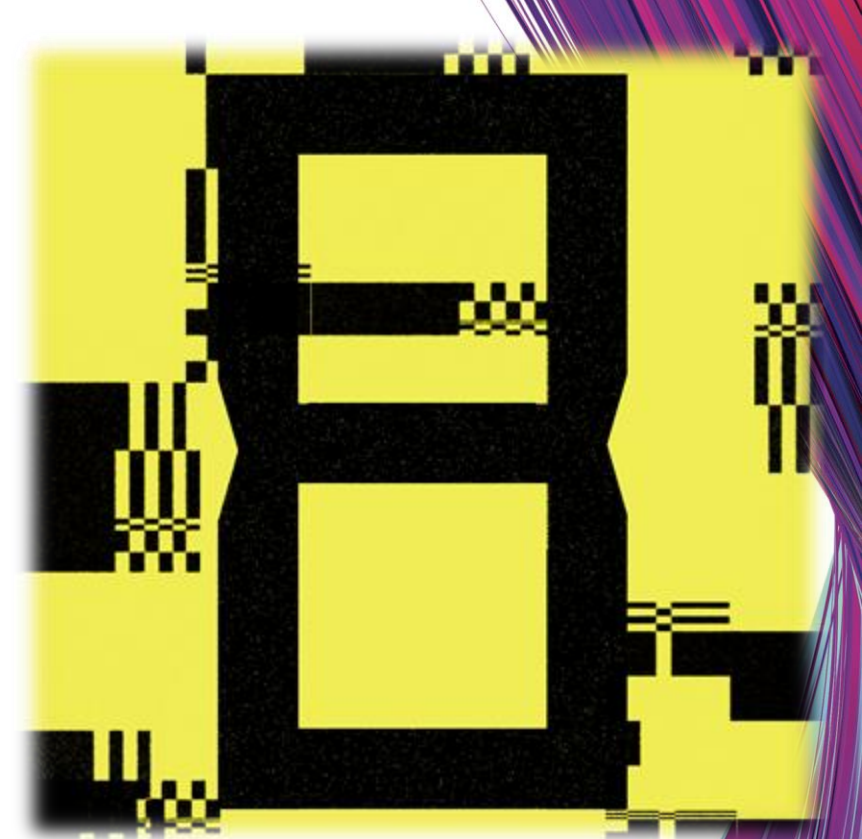
MAR 20, 2024 6:00 AM

8 Google Employees Invented Modern AI. Here's the Inside Story

They met by chance, got hooked on an idea, and wrote the “Transformers” paper—the most consequential tech breakthrough in recent history.

<https://www.wired.com/story/eight-google-employees-invented-modern-ai-transformers-paper/>

“Transformers: Iterative Self-Attention and Processing for Various Tasks.” They picked the name “transformers” from “day zero,” Uszkoreit says. The idea was that this mechanism would *transform* the information it took in, allowing the system to extract as much understanding as a human might—or at least give the illusion of that.



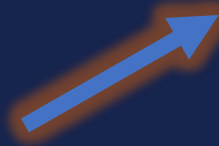
Are you ready for the A.I. challenge?

A.I. will replace you, if you let it...

A.I. is part of a larger move to AUTOMATION.

Automation offers centralized control and significant cost savings, but this revolution isn't a surprise!

Look up A.I. online and in the media. Understand what this technology is and how you can leverage it to make your best cyborg self, and then thrive in an uncertain future!



“a human being who understands artificial intelligence thriving in a technological future as digital art” - Microsoft AI Image Creator

Links and Resources

Game Development:

A.I. in Unity Development: <https://learn.unity.com/search?k=%5B%22q%3Aai%22%5D>

The Future of AI on Gaming:

<https://www.gamedesigning.org/gaming/ai-in-gaming/>

Chatbots:

Documentation: How to Build A Chatbot:

<https://www.ibm.com/ca-en/products/watson-assistant/docs-resources>

Our how-to resource document for it: https://docs.google.com/document/d/1csmzh2LKDKRuYEEboVMbadqdcR085y3G7mSDfb8_YP8/edit?usp=sharing

Create an account on IBM Cloud: <https://cloud.ibm.com/registration>

How to build your first AI chatbot: <https://youtu.be/6sXwKDj6Sp4>

https://youtu.be/97lamYD_Cp0

Dialogue Trees, Intents and Media Integration all played a part in our early engagement with chatbots. Talking about coding in terms of intents and how a large language model (the same tech that spawned ChatGPT) works

<https://www.ibm.com/products/watson-assistant/artificial-intelligence>

Artificial Intelligence as a Media Literacy:

A reflective blog post on **The New Creativity**:

<https://temkblog.blogspot.com/2023/02/the-new-creativity.html>

Picture Limitless Creativity at Your Fingertips

Artificial intelligence can now make better art than most humans. Soon, these engines of wow will transform how we design just about everything.

<https://www.wired.com/story/picture-limitless-creativity-ai-image-generators/>

If Pinocchio Doesn't Freak You Out, Sydney Shouldn't Either

<https://www.wired.com/story/artificial-intelligence-fiction-philosophy-consciousness/>

The Bar For Being Human Got Raised Again

<https://temkblog.blogspot.com/2020/07/the-bar-for-being-human-just-got-raised.html>

AI jobs: <https://ca.indeed.com/q-artificial-intelligence-jobs.html?vjk=99409d4c428d0c29>



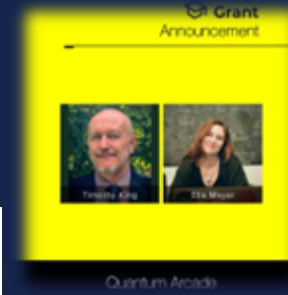
Fearless Enthusiastic Curiosity Wins!

I never got to talk about my other fascination:

Quantum Computing!



https://www.linkedin.com/posts/unitary-fund_announcement-new-grant-awarded-to-timothy-activity-7214548206003646464-BULE?utm_source=share&utm_medium=member_desktop



La Universidad Nacional Autónoma de México, a través del Centro de Investigaciones sobre América del Norte, en colaboración con el Quantum Algorithms Institute, invita al seminario virtual

CYBERSECURITY IN THE AGE OF QUANTUM ADVANTAGE

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Lunes 3 de junio de 2024 a las 11:00 h (CDMX)

Transmisión en vivo a través de nuestro canal
<https://www.youtube.com/cisanunamweb>

UNAM CISA 35 años QAI Quantum Algorithms Institute

<https://www.youtube.com/cisanunamweb>

https://www.youtube.com/live/AmhQt_03q78?si=HmHtC77A1EpGVi42

MIT xPRO
Massachusetts Institute of Technology

This is to certify that
Timothy E M King
has successfully completed the
Quantum Computing Fundamentals
Professional Certificate Program
Awarded 4.0 Continuing Education Units (CEUs)
March 25, 2024

Valid Certificate ID: 09437239-4b4d-4d18-afca-6429b27d879

SECURITY DAY: GUARDIANS OF THE CLOUD

INNOVATIONS IN AUTHENTICATION & CYBERSECURITY

DATES: MAY 28-29, 2024
TIME: 9 AM-12:30 PM PACIFIC
LOCATION: VIRTUAL (MS TEAMS LIVE)

REGISTER: www.gov.bc.ca/securityday

<https://youtu.be/5Y4Tdxdrok0?si=CNzO3nJibBPXx4Y2>

ATLANTIC SECURITY CONFERENCE

ATISECCON

<https://sched.co/1YDqZ>

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