## Generative Al for Tax Looking Back, Looking Ahead

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## Generative AI for Tax: Looking Back, Looking Ahead

by Benjamin Alarie

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#### **BLUE J PREDICTS**

tax notes federal

#### Generative AI for Tax: Looking Back, Looking Ahead

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University of Toronto and the CEO of Blue J Legal Inc. In this article, Alarie

Benjamin Alarie is

the Osler Chair in

Business Law at the

highlights updates in generative artificial intelligence technology over the past year, particularly for tax analysis, and he predicts further

developments in AI technology for 2024.

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As a tax law professor and artificial intelligence specialist at the University of Toronto, and as CEO of Blue J. I recognize that my professional commitments may suggest a conflict of interest in discussing generative AI for tax. Blue J's prominence in the field compounds that perception. I wish to assure readers that I've taken care to remain objective in my analysis. My goal is to contribute thoughtfully and critically to the important ongoing conversation about AI's role in tax law, while being open and transparent about my interescting interests.

#### I. Introduction

In 2023 it suddenly seemed that everyone began talking about generative artificial intelligence. For those who have been too occupied with the actual practice of tax to be closely following the developments in generative AI over the last year, this installment of Blue J Predicts is for you. It will go through the key points involving generative AI from 2023 that may be relevant to your life and tax practice — there are, indeed, a few. From there, the focus will be on what to expect in the year ahead.

As we enter 2024, the intensity of the chatter about generative AI is, if anything, increasing.
Law firms and accounting firms 'have been assessing generative AI and what it means for the future of professional services. Some law firms have launched their own internal generative AI solutions. 'Accounting firms have made bold announcements about generative AI, with at least one announcing a billion-dollar investment in generative AI over the next three years.' Publishers have been making announcements, too.' Universities have been concerned about the capabilities of current AI technologies and what the expected radical improvements in AI mean for

TAX NOTES FEDERAL, VOLUME 182, FEBRUARY 5, 2024

<sup>&</sup>lt;sup>1</sup>For a nice review, see Sam Sim, "Artificial Intelligence and Taxation at the Dawn of Generative AI," Tax Notes Int'I, Dec. 18, 2023, p. 1647.

A search for mentions of "artificial intelligence" on taxnotes.com shows that 2023 was the year with the most mentions. As of the second week of January, 2024's rate of mentions is running ahead of 2023.

Erin Mulvaney and Lauren Weber, "End of the Billable Hour? Law Firms Get On Board With Artificial Intelligence," The Wall Street Journal, May 11, 2023.

<sup>&</sup>lt;sup>4</sup>Ray Meiring, "Generative AI: Optimizing Pursuits to Fuel Growth," Accounting Today, Aug. 31, 2023.

Steve Lohr, "A.I. Is Coming for Lawyers, Again," The New York Times, Apr. 10, 2023.
Gunderson Dettmer, "Gunderson Dettmer Launches ChatGD, a

Homegrown Generative AI Chat App, to its Lawyers," News, Aug. 9, 2023.

"Nolan Ogden and Dom Megna, "Generative AI Presents Big Innovation Opportunities for Tax Departments," PwC Tax Research and

Insights, June 5, 2023.
Thomson Reuters, "A Year in Review: How AI Transformed the Legal Profession in 2023," Jan. 8, 2024.

# THE SINGULARITY

HOW ARTIFICIAL INTELLIGENCE CAN MAKE LAW
RADICALLY BETTER

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## Generative AI in 2023 and 2024



OpenAl launches GPT-4 in March 2023



Google and Amazon make investments in Anthropic



Google introduces Gemini, a multimodal LLM (text, audio, image, etc.)



OpenAI announces GPT-4 Turbo with 128k token context window



Microsoft integrates generative AI into its products with Copilot



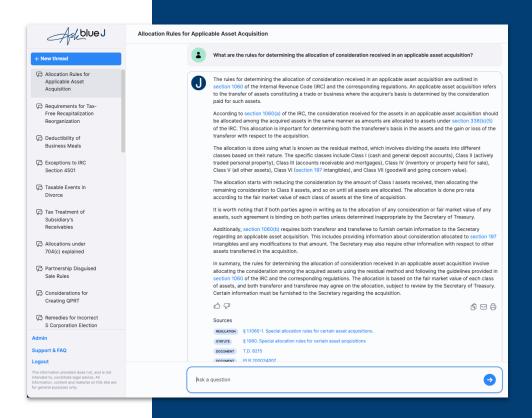
**2024 advancements:** much larger context windows, improved reasoning, multi-modal models, **strong vertical gen AI solutions** 

Ask blue J

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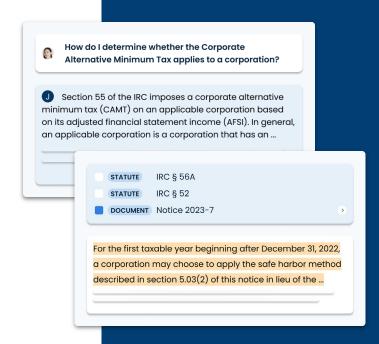
Generative AI tax research, powered by large language models and built on authoritative Canadian and US tax databases.

- √ Best-in-class content curation
- √ Addresses hallucinations
- √ Data security and privacy



### **Content Curation**

- √ Robust curation of data sources is essential
- Must support with authoritative sources, minimizing out-of-date and obsolete materials
- √ Content updated daily/weekly to ensure underlying sources materials are current
- Curation must be ongoing to ensure materials remain current





## **Addressing Hallucinations**

How do researchers using generative AI ensure its findings are not invented or wrongly synthesized?

- ✓ Platform-level preventative measures against generative AI citing non-existent cases
- √ Provides for verifiability of answers by users

ChatGPT: <u>US lawyer admits using AI for research</u>







#### **Benjamin Alarie**

CEO @ Blue J | Generative AI for tax experts

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Now at over 90% accuracy at answering tax research questions using generative Al!

Over the past 18 months we've been making extraordinary progress in improving Ask Blue J's performance on our internal benchmarks.

A "Pass" means that the system answered the tax research question correctly and cleanly. Our most recent benchmarking -- from this week -- shows we're now at 91.9%.

We are now going to redo our benchmarking suite questions to make them even more challenging. I'm looking forward to the day -- possibly not so far away -when we start struggling to get Ask Blue J to fumble on any tax questions ...

For now, we will celebrate our exceeding the 90% Pass rate with a relaxing long weekend. And then get back to work on Monday to make Ask Blue J even better!

Way to go, team Blue J!

| Version               | Pass | Neutral | Fail |
|-----------------------|------|---------|------|
| v5.1                  | 42.9 | 17.1    | 40.0 |
| v9.1                  | 48.7 | 18.9    | 32.4 |
| v9.2                  | 59.5 | 10.8    | 29.7 |
| 11 regrade            | 70.3 | 2.7     | 27.0 |
| v11.4 Reduced Sources | 78.4 | 8.1     | 13.5 |
| v11.6 Commentary      | 81.1 | 5.4     | 13.5 |
| v12                   | 91.9 | 0.0     | 8.1  |

| Version               | Pass  | Neutral | Fail  |
|-----------------------|-------|---------|-------|
| v5.1                  | 42.9% | 17.1%   | 40.0% |
| v9.1                  | 48.7% | 18.9%   | 32.4% |
| v9.2                  | 59.5% | 10.8%   | 29.7% |
| 11 regrade            | 70.3% | 2.7%    | 27.0% |
| v11.4 Reduced Sources | 78.4% | 0.8%    | 13.5% |
| v11.6 Commentary      | 81.1% | 5.4%    | 13.5% |
| v12                   | 91.9% | 0.0%    | 8.1%  |

## Generative AI for tax demo





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**Deducting Worthless** Cryptocurrency Losses

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# blue J



Ask Blue J is an incredibly powerful generative Al tool that works differently than a traditional search box. To get the most from Ask Blue J, try to provide a wellformed tax question that gives the Al guidance on what you are looking for.

See an example

• • • • • •



Answers should not be interpreted as legal advice.



All responses should be reviewed for accuracy.





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Under what circumstances can a taxpayer take a deduction on losses for cryptocurrency that has become worthless?





Under the Internal Revenue Code (IRC) and the guidance provided by the Internal Revenue Service (IRS), a taxpayer can take a deduction on losses for cryptocurrency that has become worthless under specific conditions as outlined in Section 165 of the Code. The key conditions for a taxpayer to claim a deduction for a loss due to worthlessness of cryptocurrency include:

- 1. Closed and Completed Transactions: Section 165 provides a deduction for losses that are evidenced by closed and completed transactions, fixed by identifiable events, and actually sustained during the taxable year. This means that for a taxpayer to claim a loss on cryptocurrency, there must be a definitive and identifiable event that marks the loss. Simply holding onto cryptocurrency that has declined in value does not meet this criterion unless the cryptocurrency becomes completely worthless.
- 2. Worthlessness: A loss may be sustained if a cryptocurrency becomes worthless, resulting in an identifiable event that occurs during the tax year for purposes of Section 165(a). The determination of whether an asset has become worthless is a question of fact. For cryptocurrency to be considered worthless, it must have no market value and no potential for recovery. If the cryptocurrency continues to be traded on at least one exchange, even for a fraction of a penny, it is not considered worthless for the purposes of triggering a deductible loss.
- 3. Affirmative Steps to Abandon: If a taxpayer takes affirmative steps to abandon the cryptocurrency, this could potentially qualify as an identifiable event allowing for a deduction. Abandonment requires an intention to abandon the property, coupled with an affirmative act of abandonment. Simply holding onto cryptocurrency that has declined in value, without taking any steps to abandon or permanently discard it, does not qualify as an abandonment under Section 165.
- 4. Documentation and Compliance: For a loss from worthlessness to be deductible, the taxpayer must comply with all relevant tax laws and regulations, including properly reporting their investment earnings to the IRS and filing all required tax returns. The loss must be adequately documented through closed and completed transactions, fixed by identifiable events, and sustained within the tax year.
- 5. Non-applicability of Miscellaneous Itemized Deductions Suspension: Even if a taxpayer sustains a qualifying









#### **Deducting Worthless Cryptocurrency Losses**



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#### Section 165.

- 4. Documentation and Compliance: For a loss from worthlessness to be deductible, the taxpayer must comply with all relevant tax laws and regulations, including properly reporting their investment earnings to the IRS and filing all required tax returns. The loss must be adequately documented through closed and completed transactions, fixed by identifiable events, and sustained within the tax year.
- 5. Non-applicability of Miscellaneous Itemized Deductions Suspension: Even if a taxpayer sustains a qualifying Section 165(a) loss, such a loss might be disallowed under Section 67(g), which suspends miscellaneous itemized deductions for tax years 2018 through 2025. This suspension could affect the deductibility of losses on cryptocurrency investments made for personal investment purposes.

In summary, a taxpayer can take a deduction on losses for cryptocurrency that has become completely worthless within the tax year, provided that the loss is evidenced by closed and completed transactions, fixed by identifiable events, and the taxpayer has complied with all relevant tax laws and regulations. The cryptocurrency must have no market value and no potential for recovery, and the taxpayer must have taken affirmative steps to abandon the cryptocurrency if it has not become completely worthless.



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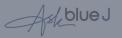
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#### **Deducting Worthless Cryptocurrency Losses**

Section 165

- Documentation and Compliance
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- 5. Non-applicability of Miscelland Section 165(a) loss, such a loss deductions for tax years 2018 t cryptocurrency investments ma

In summary, a taxpayer can take a dather tax year, provided that the loss the taxpayer has complied with all reported to potential for recovery, and the tablecome completely worthless.

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#### Sources

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Just ask





ADMIN

CCA 202302011

Published: 2023-01-13

Hide detail

Jurisdiction:

Citation/Reference: CCA 202302011, 2023-1031

Type: IRS Chief Counsel Advice

Released: 2023-01-10 Published: 2023-01-13

Federal - United States of America

events occurring in such taxable year. Treas. keg. section 1.100-1(u)(1).

Section 165(g) provides that if any security which is a capital asset becomes worthless during the taxable year, the loss shall be treated as a loss from the sale or exchange of a capital asset. Section 165(g)(2) defines a security as a share of stock in a corporation; a right to subscribe for, or to receive, a share of stock in a corporation; or a bond, debenture, note, or certificate, or other evidence of indebtedness, issued by a corporation or a government or political subdivision thereof, with interest coupons or in registered form.

Cryptocurrency B is none of the items listed in section 165(g)(2), and therefore section 165(g) does not apply.

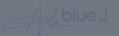
For individual taxpayers, section 67(b)(3) characterizes section 165(a) losses, other than those from casualty, theft, and wagering, as miscellaneous itemized deductions. Under current law, section 67(g) disallows all miscellaneous itemized deductions for tax years beginning after December 31, 2017, and before January 1, 2026.

#### **Worthless Cryptocurrency**

Cryptocurrency B has substantially decreased in value; however, its value was greater than zero, it continued to be traded on at least one cryptocurrency exchange, and A did not sell, exchange, or otherwise dispose of the units of Cryptocurrency B. "The mere diminution in value of property does not create a deductible loss. An economic loss in value of property must be determined by the permanent closing of a transaction with respect to the property. A decrease in value must be accompanied by some affirmative step that fixes the amount of the loss, such as abandonment, sale, or exchange." Lakewood Assocs. v. Commissioner, 109 T.C. 450, 459 (1997); Treas. Reg. section 1.165-1; see also Higgins v. Smith, 308 U.S. 473, 475 (1940) ("[D]eductions are permitted for losses 'sustained during the taxable year.' The loss is sustained when realized by a completed transaction determining its amount "): United States v. White Dental Mfg. Co. 274 LLS 398

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CCA 202302011





#### Summarize

The IRS memorandum, CCA 202302011, issued on January 10, 2023, clarifies that taxpayers cannot claim a loss deduction under section 165 of the Internal Revenue Code for cryptocurrency that has declined in value but is not considered worthless or abandoned. The document outlines that for a loss to be deductible, it must result from a closed and completed transaction, be fixed by identifiable events, and actually sustained during the taxable year. Since the cryptocurrency in question still holds some value and the taxpayer retains control over it without having taken steps to abandon or dispose of it, no deductible loss under section 165 is recognized. Additionally, even if a loss were considered sustained, it would be disallowed due to the suspension of miscellaneous itemized deductions for tax years 2018 through 2025 under section 67(g). The memorandum also discusses the definitions and tax treatment of digital assets and cryptocurrencies, emphasizing that a decrease in value alone does not constitute a deductible loss unless accompanied by an affirmative step that fixes the amount of the loss, such as a sale, exchange, or abandonment.

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#### Section 165.

- 4. Documentation and Compliance: For a loss from worthlessness to be deductible, the taxpayer must comply with all relevant tax laws and regulations, including properly reporting their investment earnings to the IRS and filing all required tax returns. The loss must be adequately documented through closed and completed transactions, fixed by identifiable events, and sustained within the tax year.
- 5. Non-applicability of Miscellaneous Itemized Deductions Suspension: Even if a taxpayer sustains a qualifying Section 165(a) loss, such a loss might be disallowed under Section 67(g), which suspends miscellaneous itemized deductions for tax years 2018 through 2025. This suspension could affect the deductibility of losses on cryptocurrency investments made for personal investment purposes.

In summary, a taxpayer can take a deduction on losses for cryptocurrency that has become completely worthless within the tax year, provided that the loss is evidenced by closed and completed transactions, fixed by identifiable events, and the taxpayer has complied with all relevant tax laws and regulations. The cryptocurrency must have no market value and no potential for recovery, and the taxpayer must have taken affirmative steps to abandon the cryptocurrency if it has not become completely worthless.



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- Transparency about the data used to train LLM.
- Safeguards to reduce risk against hallucinations, including no answer response.



#### **ACCOUNTABILITY**

- Oversight from a dedicated team of Al and legal experts.
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