Machine Learning - Introduction to Convolutional Neural Networks (Unit 9)

Overview

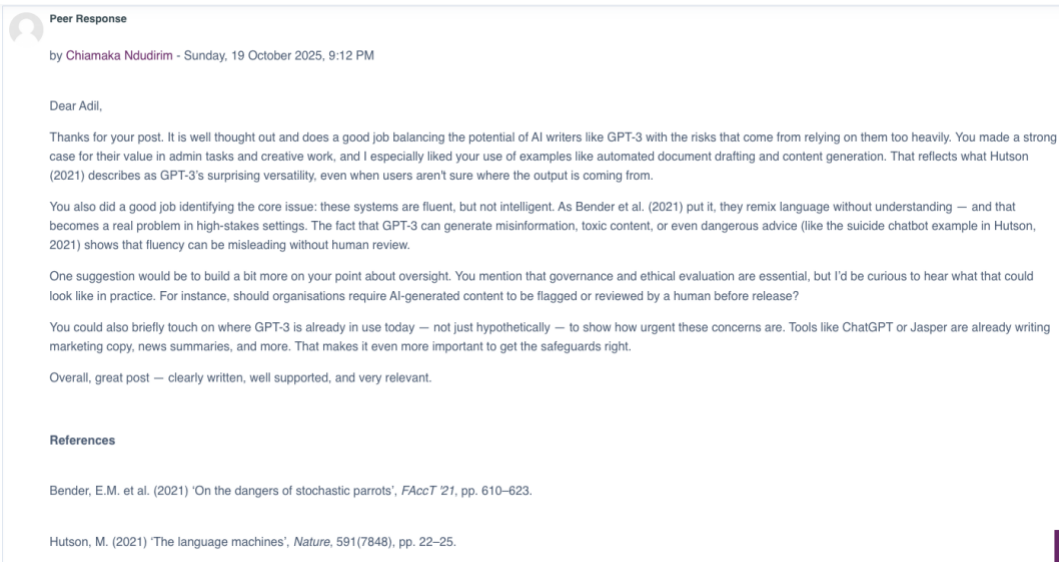
This unit focused on Convolutional Neural Networks (CNNs) and their use in computer vision tasks. It also introduced more advanced deep learning models like GANs, dueling networks, and Transformers (like BERT and GPT), which are used in everything from image generation to natural language processing (Brown et al., 2020).

What I Have Learned

I now understand how CNNs process visual data using layers like convolution and pooling. I also learned how these models are built with Python libraries and applied in real-life scenarios. Seeing how CNNs underpin modern models like GPT helped me connect the basics to current AI trends—and also highlighted some ethical concerns in their use (Goodfellow et al., 2016).

Collaboration Discussion: Peer Responses

Below are screenshots of my peer responses.



Peer Response

by Chiamaka Ndudirim - Sunday, 19 October 2025, 9:12 PM

Dear Adil,

Thanks for your post. It is well thought out and does a good job balancing the potential of AI writers like GPT-3 with the risks that come from relying on them too heavily. You made a strong case for their value in admin tasks and creative work, and I especially liked your use of examples like automated document drafting and content generation. That reflects what Hutson (2021) describes as GPT-3's surprising versatility, even when users aren't sure where the output is coming from.

You also did a good job identifying the core issue: these systems are fluent, but not intelligent. As Bender et al. (2021) put it, they remix language without understanding — and that becomes a real problem in high-stakes settings. The fact that GPT-3 can generate misinformation, toxic content, or even dangerous advice (like the suicide chatbot example in Hutson, 2021) shows that fluency can be misleading without human review.

One suggestion would be to build a bit more on your point about oversight. You mention that governance and ethical evaluation are essential, but I'd be curious to hear what that could look like in practice. For instance, should organisations require AI-generated content to be flagged or reviewed by a human before release?

You could also briefly touch on where GPT-3 is already in use today — not just hypothetically — to show how urgent these concerns are. Tools like ChatGPT or Jasper are already writing marketing copy, news summaries, and more. That makes it even more important to get the safeguards right.

Overall, great post — clearly written, well supported, and very relevant.

References

Bender, E.M. et al. (2021) 'On the dangers of stochastic parrots', *FAccT '21*, pp. 610–623.

Hutson, M. (2021) 'The language machines', *Nature*, 591(7848), pp. 22–25.

Peer Response

by Chiamaka Ndudirim - Sunday, 19 October 2025, 9:30 PM

Hi Matthew,

Thanks for your post. I really appreciated your take from the creative writing and publishing side. You brought a much-needed focus to copyright and consent, which often gets overlooked in discussions that focus more on productivity or bias. As you pointed out, the way training data is sourced — often without clear permissions — raises legitimate legal and ethical concerns (Goodyear, 2025; Jiang, 2025). Hutson (2021) touches on this too, noting how opaque GPT-3's training process is, which only adds to the unease around intellectual property rights.

What stood out most was your point about one-to-one infringement. As generative models become more advanced, the line between inspiration and replication is definitely blurring. It's not hard to imagine a writer or artist recognising phrases or styles that closely resemble their work in AI-generated content. That's a serious risk, not just legally, but also in terms of how we value original creative labour.

I also liked that you didn't rush to make a judgement on whether AI-generated writing qualifies as "valid" creative output. As Hutson (2021) suggests, GPT-3 can produce surprisingly strong creative work, but since it doesn't understand what it's writing, it raises deeper questions about meaning and authorship.

One thing you might expand on is how creatives can respond. Should there be opt-out mechanisms for training data? Or clearer guidelines on attribution? I think those are questions worth asking as this space continues to evolve.

Overall, your post brought a strong, real-world dimension to the conversation and raised questions we absolutely need to be asking.

References

Goodyear, M.P. (2025) *Artificial Infringement.* Proceedings of the 2025 Symposium on Computer Science and Law, pp.26–38.

Hutson, M. (2021) 'The language machines', *Nature*, 591(7848), pp.22–25.

Jiang, L. (2025) *Research on Copyright Infringement Issues of Generative Artificial Intelligence, Law and Humanities*, p.51.

Peer Response

by Chiamaka Ndudirim - Sunday, 19 October 2025, 8:59 PM

Dear Ajayeb,

Thanks for your post. It was well-organised and addressed both the opportunities and concerns around AI writing tools with clarity. I thought your point about how AI can help users articulate their ideas better was a strong one. As Floridi and Chiriatti (2020) note, tools like GPT-3 can be especially useful for those who might struggle with language fluency or structure, and that's a real advantage in academic and workplace settings.

Your argument around the ethical and legal challenges was also solid. You highlighted the grey areas around authorship and plagiarism effectively. I think Bender et al. (2021) sum it up well when they describe these models as "stochastic parrots" — they generate plausible content without truly understanding it. That becomes a real issue when the line between human and machine authorship isn't clear.

One suggestion I'd offer is to maybe bring in more concrete examples — like Hutson's (2021) mention of GPT-3 suggesting suicide when asked for mental health advice. It's a disturbing example, but it really drives home the risk of deploying these tools without safeguards or human review.

You wrapped up nicely by calling for responsible governance. I'd add that part of that governance should also include public education — if people are using these tools, they need to know how they work and where they fall short.

Overall, a well-balanced and informed post — it contributes to the discussion with a clear understanding of both the potential and the limits of AI writing.

References

Bender, E.M. et al. (2021) 'On the dangers of stochastic parrots', *FAccT '21*, pp.610–623.

Floridi, L. and Chiriatti, M. (2020) 'GPT-3: Its nature, scope, limits, and consequences', *Minds and Machines*, 30(4), pp.681–694.

Hutson, M. (2021) 'The language machines', *Nature*, 591(7848), pp.22–25.

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