

Appendix: Improving Neural Story Generation by Targeted Common Sense Grounding

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1 Training Details

In this section, we describe our training method in detail. For all experiments, we use a batch size of 16 and train on 8 NVIDIA 2080Ti GPUs.

Our training pipeline consists of two stages. In the first stage, we perform domain adaptation using BookCorpus (Zhu et al., 2015) dataset. We fine-tune following techniques from Howard and Ruder (2018). We use a triangular learning rate with 1,000 iterations of warm-up to a maximum learning rate of 5×10^{-5} then decay the learning rate to zero for the next 99,000 training iterations.

In the second stage, we perform multi-task fine-tuning on our primary task (WritingPrompts) and auxiliary tasks (SWAG and our synthetic dataset). We alternate training between these three datasets. We train using our language modeling objective on WritingPrompts every iteration. For every 15 iterations, we train on the synthetic dataset and every 30 iterations we train on the SWAG training set. In effect, this places more importance on the primary task over the auxiliary tasks. We use the same learning rate schedule as in the first stage and apply early stopping using the validation set of WritingPrompts.

2 Samples

We include full stories generated by two of our models with and without the auxiliary multi-task objectives. These samples are unconditional, e.g. the model also generates the prompts. For comparison with Fan et al. (2018), we also generate samples from our best model with the exact same prompt used to seed their samples.

References

Angela Fan, Mike Lewis, and Yann Dauphin. 2018. Hierarchical neural story generation. In *ACL*, pages

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Jeremy Howard and Sebastian Ruder. 2018. Fine-tuned language models for text classification. *CoRR*, abs/1801.06146.

Yukun Zhu, Ryan Kiros, Richard S. Zemel, Ruslan Salakhutdinov, Raquel Urtasun, Antonio Torralba, and Sanja Fidler. 2015. Aligning books and movies: Towards story-like visual explanations by watching movies and reading books. In *ICCV*, pages 19–27.

Prompt: Today, you are a teenager living in a nation that's population is estimated at close to 1 billion. You are also in the midst of one of the most brutal wars in history, with almost no sign of stopping until a nuke strikes the United States.

Most people didn't realize the situation at all. It was like they were surrounded. Or maybe that was me. Probably another setup.

The third one, the decision was me, that'd been a week ago. A very long time ago, I was in the United States and would have died back there. I had no idea what was going on but I had gotten fed up with them. Well, I was glad I had left. They hadn't gotten fed up with me. They all think they can keep me to the gates.

"Stay with us!" I shouted to the crowds in the crowd. As many of them watched as I marched through the crowds, those I could only see as they walked toward me, would come closer to see me. I had children on my shoulder now.

I stepped into the classroom to report for duty. "First reports have been very rough on my family. They all broke in and assaulted one of the teachers during their lunch break. That was the beginning of it, right? So they can't trust us to stay with them and listen to them, right?" The classroom was covered in bullet holes and broken desks. Everyone from the school to the Pentagon had come to help.

"So who are they? I mean we sent them into Washington and Washington D.C. and they've taken over our city and our houses. I don't know, that doesn't sound good. We're going to the truck to get to and get them out of there. Even if they try to run out we're going to get them back out. If they try anything else they'll be shot, if they try to escape or even worse. I hear there's a couple of US soldiers out there looking for me. I'll just tell them to send some valuables to the embassy. They have better phones. What if they try to make it to the bus station or what?"

The people in the classroom didn't take this any more seriously than I had. Their survival and technology would be long over the horizon. It was a race that only the defense budget could have prepared for. "What's the worse that could happen?" I asked one of the doctors. "I can't risk it." The doctor had stopped talking to me. "Do you know where we are? Do you know how long it's been?"

The state almost overwhelmed the building like I had. I knew that far outside the walls, on the other side of the nation, there were more. But it's a safe bet that what I was seeing now was some kinda, "Plenty of people" army, occupying their homes and running them off. They couldn't get rid of the CIA or, or, no, the world government, it would have been too easy. Their military didn't even have such potential, no army could have. It would have been too easy.

They weren't people. No, there were hundreds of people that would have been so easily overcome.

"We have to go down to the country base. The embassies would be taken care of."

I started heading down to the bus station.

Prompt: Write a short scene in which one character reduces another to uncontrollable sobs without touching him or speaking.

It was the first day of finals, and his class had stopped for the night. But that's ok; it didn't feel like his class mattered, it just seemed to wind up passing without him noticing. He would write away and miss his chance at one of his halloween parties, but he found himself crushed by the feeling of his class being forgotten.

It wasn't an act of love, or a lust, or an angst; it was just all that remained of it all. He smiled at the young woman in his class and said the first thing he thought of before going off to dinner.

"You're such a brat."

Table 1: Samples generated by GPT2 → BC → WP.

Prompt: Someone can make you be who you want to be without ever being told.

Derek didn't feel like he was going to try it. He took a swig of wine, stopped to look at the casket, pulled a pistol from the depths of his jacket, and shot himself in the head.

Over the past week, Derek had been learning how to say goodbye to Jennifer. She was an avid drinker, if he hadn't already been about to drop her off at the bar, she would have never stopped talking. Derek understood that it was part of his life now, but he didn't want her taking the brunt of his life for something he didn't understand.

Derek knocked over a glass of coke as he heard the small women's voice whisper to him. "I see your coat is getting in shape."

Derek had been worried about getting up to Jennifer. She always appeared in front of him when he talked, so he took a few steps to give him a room where he could whisper into her ear as she silently laughed with her mother. Derek had walked away from the bar, and headed to the bedroom of his father.

He sat down on the dresser, grabbed the phone, and dialed the number that was listed in the phonebook. He pulled up his phone to record his message and played it with the button.

"Hello?"

"I'm sorry I called to speak to you, but you've been shot dead. Your loved ones have been informed that your funeral will be in 20 minutes."

The tears were flowing, faster now. "Why? Why didn't they do this?"

The last words Derek heard before he lost control of the gun were, "I couldn't do it. I told them I wasn't happy, that it was too hard. I didn't mean to kill them, but they kept on telling me I wasn't a good man. And now I'm going to die again."

A tear dripped from the corner of his left eye and splattered over the glass of coke that was cradling his head. He didn't know if she was holding him back or trying to make him more crazy, but it was over and he was falling apart.

He began sobbing.

Prompt: North Korea's space program has been sabotaged. They are preparing for a final push for a country they can not reach.

They've already prepared for the worst.

We all watched as the North Korean missile interceptor went off course, heading directly towards the Northern Sea. No one seemed to be very concerned about their fate, everyone was simply curious. But when North Korea launched their missiles in four straight days, things started to go horribly wrong.

The "first in a long line of spaceships" North Korean propaganda portrayed, had been mysteriously appearing in the sky over the course of the few hours North Korea had taken to launch their first space craft. No one suspected anything, and nobody really cared. The entire military was horrified at what they were seeing.

That's when the horrible explosion they had seen coming at the end of their first space craft caused North Korea to launch it's first space flight.

Many initially feared it was an act of war. That it was coming for them with what seemed like precision, purpose. Instead, it was merely a sick piece of manufactured shit, a broken economy. They saw it coming for the very first time, because their weapons were tested, then they just killed each other over the course of the next 48 hours.

The end result was far more interesting to everyone. China, Russia, and Japan all surrendered, saying that they didn't want to risk another war in the middle of the Pacific. Just as they all decided it was a self-defense measure, and that was it.

Korea was prepared for what they were about to see. But what they saw was much, much worse than the initial reports. It was a massive wall of nuclear powered missiles. Before they knew it, the entire world knew what was about to happen, and would happen for all of humanity.

Prompt: The scientists have discovered something terrible.

Robert Burton looked up at the scientists, his stomach churned. The lead researcher of the institute, Sir Peter Hetty, was simply simply not interested. “This is absurd, but they have to make a case.”

“To prove to the world that the M’ledvian radiation has been ‘neutralized’ rather than being harmless,” replied the human researcher, Steve Buckley. The room fell quiet once again. “So then, we can set up a containment field. That way no more would we be irradiated? Why would you want to take any precautions with M’ledvian radiation?”

“With regard to this, Sir,” repeated Robert, “I simply can not accept that M’ledvian radiation has been found to be harmless.”

“And what the *hell* would you do, give up on anything, give up your thesis to write about what would happen if a planet’s moon was dropped?” Buckley asked in a full tirade. “What sort of miscalculation would that get us?”

“But we still can’t just accept that there’s no life on the moon. The black hole they created to completely incinerate us doesn’t even have that great of a gravitational pull we are left with.” Burton said, his voice rising.

“So we should be doing it, working to protect all life on this rock from us. Is that too much to ask, Jeremy?” Asked Buckley, spitting at the ground.

“Exactly. If we give up on doing it now, with the orbital research we did with the Mars Project, we would have no chance, just like we did before the bombs dropped.” Buckley continued, sipping his tea.

“Alright, Buckley. Well done. We shall begin. ” Burton smiled as he went back to his tea. “May we get some lunch, please?”

Table 3: Samples generated by GPT2 → BC → WP + SWAG + SYNTH primed with the same prompts as Fan et al. (2018).