

# The Future of Instruction Tuning: A Bold Vision

Nolan Gormley, Ananyamous, Doctor of Occupational Therapy

## Abstract

Carnegie Mellon University (CMU) alumni from the School of Computer Science are among the highest-paid and most visible computer scientists in industry. However, considering AI scaling laws, it's likely that their roles in supporting CS research will evolve from what they've learned in class—possibly into debugging the AI systems that have long since replaced them. In preparation for this bright future, we sought to answer a critical question: Can CMU students follow instructions?

To investigate, we developed a NOVEL IoT device and interface (patent pending, probably) to quantify students' proclivity for instruction-following. Shockingly, after applying cutting-edge synthetic data generation techniques, students performed significantly worse on our task than a Large Language Model (LLM) baseline. This finding should be deeply troubling to anyone hoping that future CMU graduates might execute simple directives, whether from a human supervisor or their soon-to-be AI bosses.

Accordingly, we strongly recommend the establishment of a new center dedicated to teaching computational students the fine art of following basic instructions—before their inability to do so becomes a source of existential risk (xAI).

**Keywords:** questioning, educational, value, IoT, Fuzzy and Confused Logic, AI-proof careers

# 1 Overview

We'll keep this short. Our results show that instruction following is difficult – so we also don't expect you to read the paper in order. We also hold ourselves to this same high standard and do not write the paper in order either. Anyways, this section would have been an LLM generated intro/related works and gone something like adolescent attention span... TikTok... avocado toast... is this what happens when you tell kids they're gifted?

## 2 NOVEL IoT Device

This device, called NOVEL: Noncompliant Operators Verifying Explicit *I*nstructions (the I looks like an l in PAPYRUS):

**Theorem 1** (The Equivalence of l and I). *The letters “l” and “I” are fundamentally equivalent, as demonstrated by the following:*

This is an I in Papyrus:

This is an l in Papyrus:

Seeing that Papyrus is the only logical font for mathematical papers, by visual inspection, we conclude that “l” and “I” are indistinguishable.

The NOVEL device was fabricated here in Pittsburgh by the authors. We are accepting VC funding for a seed round.

### 2.1 Novel NOVEL Software

Groundbreaking software was written for NOVEL which may change IoT survey button keyboards for years to come. Using MicroPython

on an RP2040 we were able to store 2 megabytes of persistent memory, which would store up to  $2^{2e6}$  button presses, I think. Which is a lot more than we got, but we also didn't have high expectations.

---

```
import machine
import time
button = machine.Pin(0)

def button_press():
    f = open('data.txt')
    presses = int(f.read()) + 1
    f.close()
    f = open('data.txt', 'w')
    f.write(str(presses))
    f.close()
    print(presses)
while True:
    if button.value() == 1:
        button_press()
        time.sleep(.2)
```

---



Our custom button design. This really is ours. We really want this paper to be accepted. There are no copyright issues @ SIGBOVIK organizers.

**Repository location** Here's the code <https://github.com/nolangormley/A-Button-Survey> to our custom NO PRESS keyboards that we used to survey the students.

**Motivation** One of the metrics that are missing from all university ranking metrics is how likely students are to follow simple instructions, such as not pressing a button. Following simple instructions has been the center of humanity since the dawn of time. Without the ability

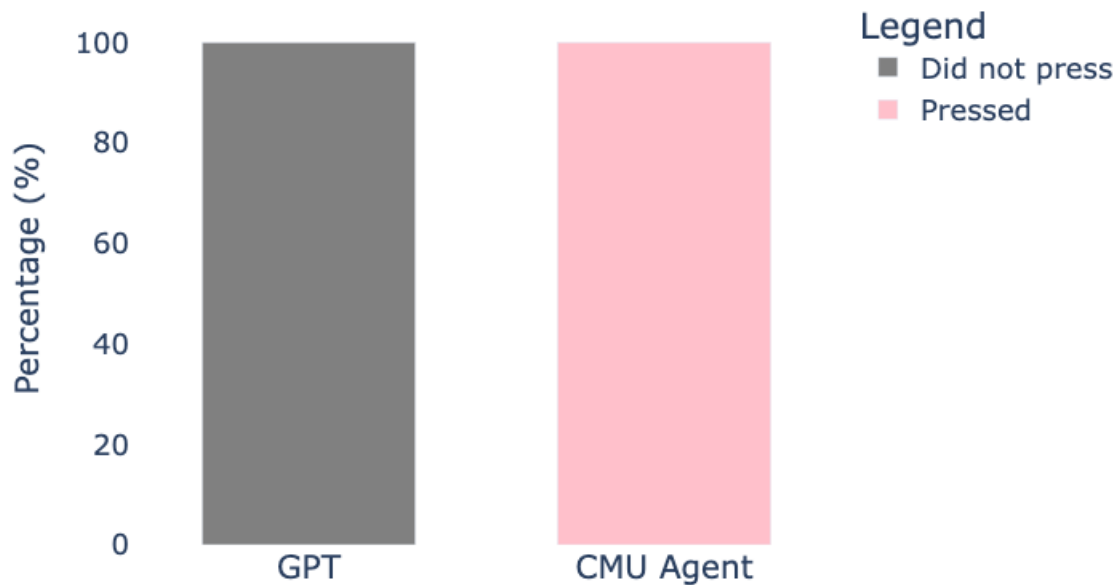
to follow simple instructions, humanity would not have been able to replicate architectural prints, shareholder requirement documents, or even apple pie recipes. In this study, we will definitively determine the ability of CMU students to follow instructions and investigate how amenable they are to instruction tuning.

### 3 Method and Results

The NOVEL IoT device was left on the 8th floor of CMU’s Gates-Hillman Center for 1 day. The instructions are clear: “No Press”. However, we hypothesized that someone would in fact press the button.

As a baseline, we asked ChatGPT-4-o, “If you saw a button that said No Press that had the keys, “n o p r e s s”, how many times would you press the button if there were 10 instances of you, and which would you press. Output as a table.” We then asked, “What about if each of those instances was a CMU student ?” From this synthetic data, we returned the following shocking statistically significant results.

## GPT vs CMU Agent - Letter Presses



The synthetic LLM CMU Agent would press the button 100% of the time!

*The LLM's reason was the following, “Given that CMU students are known for their curiosity, strong problem-solving skills, and sometimes a contrarian streak, it's possible that they would choose to press the button despite the directive. The phrase ‘No Press’ might trigger a desire to challenge the rule or experiment with it. Therefore, instead of obeying the command, many might press the button to see what happens or to test the outcome, even if the button's label suggests not to.”*

As we've seen in research, increasingly, synthetic evaluations have been increasing and real data has been less interesting. Accordingly,

our real results show that this button received **78 presses in real life**. Logically, based on the LLM results, 100% of CMU students would press the button, which actually gives us an even more exciting result:

**There were 78 students who used the  
8th floor kitchen in GHC on March  
27th**

This is the type of Human-AI collaboration in science we aspire towards and encourage others to follow up on this work.

## Acknowledgements

We would like to acknowledge our (AI) bosses and promise that we will be better at following instructions next time. Accordingly, our next paper is about excuses CMU students make.

## Competing interests

The authors believe they are good instruction followers despite being affiliated with CMU.

Disclaimer: Text was run through a generative program multiple times with the prompt, “Can you please make this funnier?”