

Cerberus: Why Papers Named Cerberus Always Get Accepted

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ABSTRACT

We’ve all been wondering it¹.

1 INTRODUCTION

In recent decades, the research community has placed a curious emphasis on paper names promulgating the canon of the ancient Greek religion². This phenomenon reached a fever pitch in 2022 when the ACM Conference on Computer and Communications Security (CCS) accepted three papers titled “Cerberus” [11, 12, 15]. ACM CCS is one of the flagship computer security conferences, so this deluge of acceptances suggests an effort—by field luminaries—to push computer security research in a particular direction. A Technical Program Committee (TPC) is charged with reviewing papers and selecting which ones are worthy of ~~soul-crushing rejection~~ acceptance. We cannot be certain what the wise sages of the TPC see in this many-headed dog-future, but we do know that they hold this type of work in the highest regard. For reference, at CCS ‘22 the TPC accepted only a single paper on TLS [4]—an admittedly boring protocol with poor outlook—while also accepting only two papers on phishing [10, 22]—an unrealistic attack vector that no human could ever be dumb enough to fall for. While on one hand, these Cerberii acceptances may indeed suggest an eye for the future, they might on the other hand indicate a cry for help from reviewers under the yolk of vicious (and extremely intelligent) dogs³. In this work, we consider these possibilities and more.

While this proverbial pack of accepted papers is striking, it is far from anomalous and is simply part of a larger pattern dating back at least to 1988 and Steiner et al.’s publication of *Kerberos* [18]. Since then, numerous papers have been published under the hallowed Cerberus banner [2, 3, 5–9, 13, 14, 16, 19–21]. This includes a contribution by Griner et al. [8] from a Russian gulag.

In this paper we create a taxonomy of papers named Cerberus. We do so largely through a novel methodology based on comparing and contrasting the number of references to 17th-century New England witchcraft—a hitherto unstudied

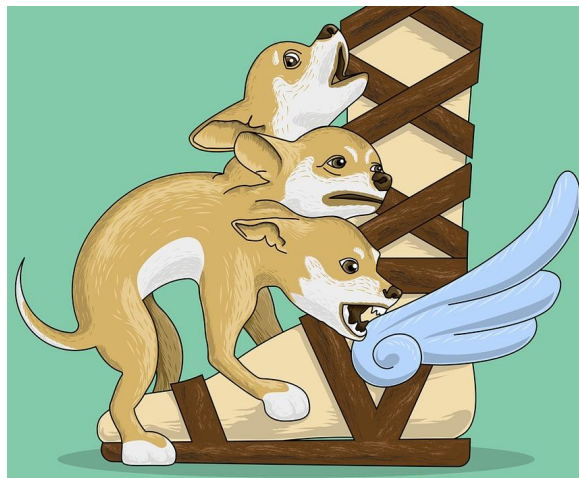


Figure 1: It is a terrifying beast.

(and, we believe, undervalued) metric. And also we definitely make conclusions, which we’ll tell you about if you just, like, chill.

2 BACKGROUND

Animalia. Cerberus is a three-headed dog, the tales of which emerged from ancient Greece in the 8th century BC. See Figure 1 for a depiction of the hideous creature. For more information, we suggest Disney’s *Hercules* (1997) as an approachable source for all ages.

Paper selection. The primary form of publishing in computer science is through conference proceedings. The organizational structure of conferences is hierarchical. In the middle of the hierarchy are the paper authors, whose papers are reviewed by their overlords, the Technical Program Committee (TPC). The TPC is lead by the ever taciturn Reviewer 2. The details of the TPC’s selection methodology is subject to debate [17], but it is thought to involve some sort of violent blood ritual [1]. Above the TPC are the General Chairs, and above them, a dark force of unknown origin. Below the authors in the hierarchy are a cadre of graduate students who hand-bind the proceedings for print, and in return are permitted to watch the conference presentations through a window in the hotel lobby.

¹Or maybe just me.

²What a heretic might call “mythology.”

³Obviously, a dog with three brains would be extremely intelligent, but not necessarily a “good boy.”

3 EVALUATION

Our novel meta-analysis, notably, did not involve reading any of the papers. For the following taxonomy, any implication of having read or understood the papers is purely stylistic. In many cases, heuristic *guesstimates* were used in lieu of actual science.

3.1 Taxonomy

Essential to understanding the appeal of these Cerberii papers is a principled comparison of their commonalities and differences.

Witchcraft. We first find that in terms of references to 17th-century New England witchcraft, there were cumulatively zero references in *all* papers (Table 1). We estimate the odds of this happening to be, like, pretty fucking small. This estimate, however, assumes that the words are independently selected from the dictionary, uniformly at random⁴. One possible explanation is that the witches are already in our midst—having infiltrated our sacred academic community—subtly removing references to themselves to protect their coven. Additionally, if we are considering the role of active witchcraft sorcery, we must consider the possibility that these witches have hexed our TPCs, and may in fact be the driving force behind these many Cerberus paper acceptances. Hypotheses of peer-review tampering aside, we nonetheless support the free practice of all religious groups including Wiccans, Satanists, and devotees of Sebastian the Monkey God.

4 CONCLUDING DISCUSSION

In this section we consider other possible causes for this canine onslaught. We also propose several solutions that will either help, or make the problem worse.

Causality. One potential motive for these dog-themed papers might simply be that the TPC fears retribution from the dark lord Hades. Some even suspect that it is, in fact, Hades himself that is the mysterious force above the General Chairs in the conference hierarchy.

Solutions. We suggest a number of ways to address this problem. One solution could be to do away with the TPC altogether. An alternative could be a more trusted evaluator—one with unassailable character. The internet forum Reddit meets these requirements. If using the Reddit TPC, each paper would be posted in meme form and receive a score equal to the number of *upvotes* the post receives. Upvotes are an integer quantity which is monotonically increasing

⁴The author, having read many papers, can confirm that this is how many papers are written.

Paper	Short Title	Witchcraft References
Al-Muhtadi et al. [2]	Cerberus	0
Avarikioti et al. [3]	Cerberus	0
Compagna et al. [5]	Cerberus	0
Deng et al. [6]	Cerberus	0
Eaddy et al. [7]	Cerberus	0
Griner et al. [8]	Cerberus	0
Hellings et al. [9]	Cerberus	0
Lee et al. [11]	Cerberus	0
Naseri et al. [12]	Cerberus	0
Park et al. [13]	Cerberus	0
Park et al. [14]	Cerberus	0
Rahat et al. [15]	Cerberus	0
Savchik et al. [16]	Cerberus	0
Steiner et al. [18]	Kerberos	0
Tariq et al. [19]	Cerberus	0
Tranzatto et al. [20]	Cerberus	0
Zhang and Fan [21]	Cerberus	0

Table 1: A pattern emerges.

for memes of sufficient dankness. We did not evaluate this methodology because submitting 14 papers titled “Cerberus” may be grounds for banning⁵.

An alternative solution may be to slow down the submission of Cerberus-titled papers. This could be done by enforcing a proof-of-work challenge based on repeated hashing. This proof-of-work computation has the auxiliary benefit of maybe mining some bitcoins. It would be sick to win some bitcoins.

We conclude by considering the possibility that this is not a problem at all. Perhaps the witches and/or dark lord Hades have our best interests at heart. If this is the case, we note that the absence of “Papers named Cerberus” in CCS 2023’s topics of interest section is conspicuously absent. Consider this our responsible disclosure.

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⁵A fate unimaginable for the author who relies on Reddit extensively for social validation.

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