

## INTRODUCTION

Film is a rapidly evolving Industry with new ideas, technology, and ways of streaming changing the game and evolving daily. I plan on focusing on CGI and its impacts on cinematography. In this article I uncover how CGI is affecting certain parts of the filming and its overall effect and consequences.

## RESEARCH METHODOLOGIES

My research is applied as it was an ongoing investigation undertaken to uncover and acquire new knowledge on a subject that is relatively well known but still foreign to most today. Quantitative data was used, such as percentage of CGI in movies climax, number of dolly and depth of field shots, I hope to uncover whether CGI being in a portion of a film affects cinematography, into using more dynamic shots or whether they base on the CGI leading to more depth of field shots. My data is observational sampling forty-seven movies since the introduction of CGI to mainstream cinema 1976 to 2021. The films that I have selected all originate from the OSCARS film awards, in the category of special effects. climax is identified through being at least 2/3rds into the movie, through visual and audio cues, and whether it resolves the issue of the film/rising action.

## DATA AND FINDINGS

The Raw Data of 47 Oscar winning film: Visual Effects Since The Creation of CGI in regards to percentage in climax and cinematic shots.

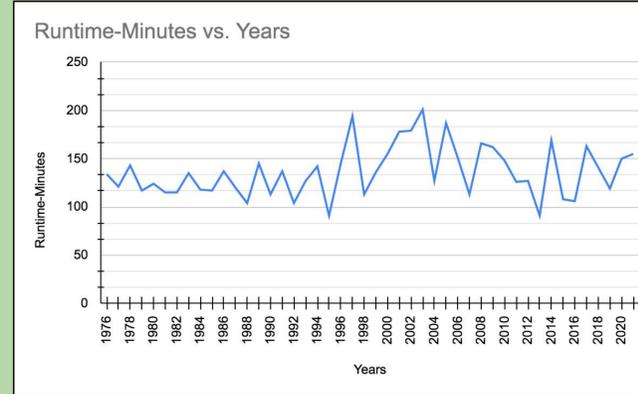
A depth of field shot is a technique used in film cinematography to create a visual effect in which the subject or actor appears in focus, while the background and foreground are blurred. This effect is often used to draw attention to a particular subject or to create a sense of depth and dimensionality in an image.

1	Years	Film	Runtime	CGI	Climax%	Depth of Field SI	Dolly Shots
2	1976	King Kong	134 minutes	No	0%	0	5
3	1977	Starwars	121 minutes	No	0%	0	1
4	1978	Superman	143 minutes	No	0%	2	0
5	1979	Alien	117 minutes	No	0%	1	0
6	1980	The Empire Strik	124 minutes	No	0%	3	1
7	1981	Raiders of the lo	115 minutes	No	0%	0	3
8	1982	E.T.	115 minutes	Yes	0%	0	1
9	1983	Return of the Jai	135 minutes	No	0%	15	0
10	1984	Temple of Doom	118 minutes	No	0%	3	12
11	1985	Cocoon	117 minutes	No	0%	0	1
12	1986	Aliens	137 minutes	No	0%	3	1
13	1987	Innerspace	120 minutes	No	0%	0	2
14	1988	Who Framed Ro	104 minutes	No	0%	8	0
15	1989	The Abyss	145 minutes	Yes	0%	0	0
16	1990	Total Recall	113 minutes	Yes	0%	5	4
17	1991	Terminator 2	137 minutes	Yes	0.50%	0	0
18	1992	Death Becomes	104 minutes	No	0%	8	2
19	1993	Jurassic Park	127 minutes	Yes	0%	11	4
20	1994	Forrest Gump	142 minutes	Yes	0%	10	4
21	1995	Babe	91 minutes	Yes	4.50%	0	4
22	1996	Independence d	145 minutes	Yes	0%	0	5
23	1997	Titanic	194 minutes	Yes	0%	5	0
24	1998	What Dreams M	113 minutes	Yes	1%	50	1
25	1999	The Matrix	136 minutes	Yes	20%	30	5
26	2000	Gladiator	155 minutes	Yes	5%	20	2
27	2001	TLR:Fellow Ship	178 minutes	Yes	3%	45	2
28	2002	TLR:The Two To	179 minutes	Yes	8.20%	16	4
29	2003	TLR:Return of th	201 minutes	Yes	75%	46	13
30	2004	Spiderman 2	127 minutes	Yes	69%	31	2
31	2005	King kong	187 minutes	Yes	61%	20	2
32	2006	Dead Mans Che	151 minutes	Yes	48%	20	6
33	2007	The Golden Con	113 minutes	Yes	89%	45	5
34	2008	Benjamin Button	166 minutes	Yes	0%	5	0
35	2009	Avatar	162 minutes	Yes	100%	40	20
36	2010	Inception	148 minutes	Yes	5%	30	0
37	2011	Hugo	126 minutes	Yes	5.20%	52	8
38	2012	Life of PI	127 minutes	Yes	7%	4	1
39	2013	Gravity	91 minutes	Yes	59%	51	0
40	2014	Interstellar	169 minutes	Yes	90%	32	5
41	2015	Ex Machina	108 minutes	Yes	60.50%	0	1
42	2016	Jungle Book	106 minutes	Yes	57%	1	9
43	2017	Blade Runner 20	163 minutes	Yes	9%	29	2
44	2018	Firstman	141 minutes	Yes	66%	59	4
45	2019	1917	119 minutes	Yes	2%	55	20
46	2020	Tenet	150 minutes	Yes	4%	60	4
47	2021	Dune	155 minutes	Yes	12%	70	0

## DISCUSSION, ANALYSIS, AND EVALUATION

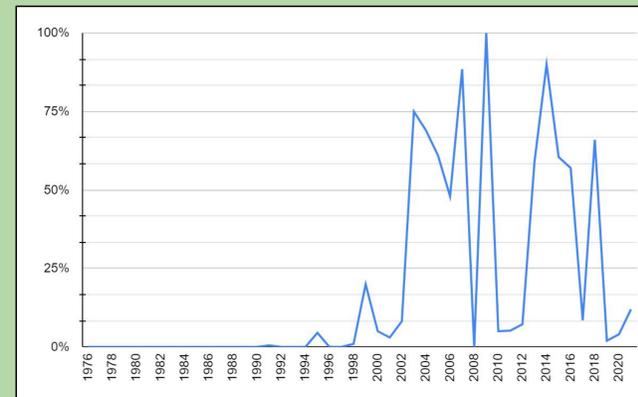
### 1. Movie Runtime Over the Years

- Overtime, the run time has become more INCONSISTENT since the rise of CGI. Runtime became very inconsistent as more movies engage and adapt for a competitive environment



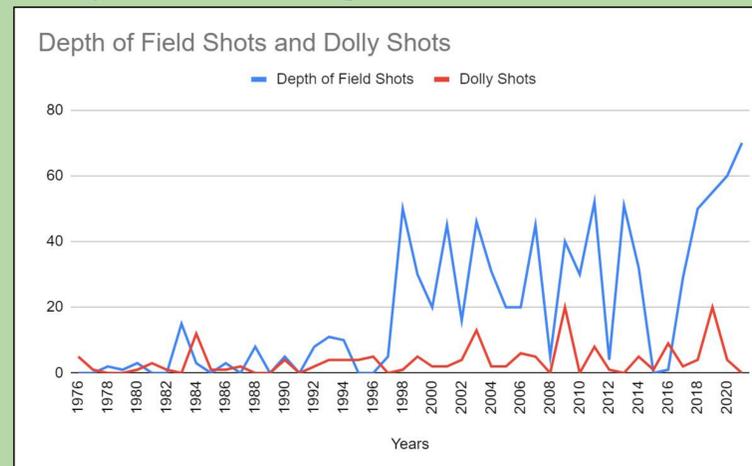
### 2. CGI% in Climax Over Years

- Percentages very skewed, as genres varied



### 3. Depth of field v. Dolly

- Dolly Shots had initially started at greater than or equal to Depth of field shots, in later years being overwhelmed by Depth shots
- Dolly shots are costly, needing a large set, camera dollies, many actors, and precise timing. in animation, dolly shots require rendering a larger environment.. depth of field shots are cheaper, requiring less lighting to compensate for a closed aperture, especially with zoom lenses. if the background is CGI, blurred backgrounds are still cheaper.



## CONCLUSIONS, IMPLICATIONS, AND NEXT STEPS



Figure 1: Depth of field shot from *Avengers: Endgame*

Although the uniqueness of shots is definitely decreasing as shown. The data is too small as to decide whether the film industry has lost its creativity in regards to cinematography versus CGI or whether this is a decision by higher execs to cut on costs. As not only does it take a lot more time and effort to be able to get shots in focus, but it also costs millions of dollars to incorporate in films that are trying to keep similar run times, as to compete in a fast paced industry.

In a time where viewers and directors are only beginning to see a disagreement, with the overuse of lackluster shots more time has to pass before the data, would look less exaggerated.

## ACKNOWLEDGEMENTS / REFERENCES

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