



AI in Video Games (Hearthstone Statistical Software)

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Hearthstone

- Virtual Card game.
- Lyon College Esport.
- Turn Based.
- Released in 2014.
- 2,496 collectable cards.
- 23.5 million active players.
- Made by Blizzard Entertainment. Also made World of Warcraft, Overwatch, and Diablo franchises.



Deck Tracker

- Tracks cards in real time. In decks and hands.
- Shows drawing probabilities.
- Legal in every hearthstone Tournament I've played.

The Innkeeper

Cards the opponent
has revealed so far

Turns at which each
card was drawn

Cards left in the
player's deck

Turn timer and
players' total times

Probability of the
opponent having a
certain card
in hand

Cards in hand
and deck

Drawing
probabilities

1	Noble Sacrifice	
1	Secretkeeper	
3	Aldor Peacekeeper	
3	Scarlet Crusader	
4	Truesilver Champion	
6	Argent Commander	
<div><div></div><div></div><div>3</div><div></div><div>21</div></div>		
<div><div></div><div>1</div><div>4.8%</div><div>2</div><div>9.5%</div></div>		
<div><div></div><div>1</div><div>16.7%</div><div>2</div><div>31.2%</div></div>		

1	Zombie Chow	
2	Shadow Word: Pain	
2	Garrison Commander	
2	Unstable Ghoul	
3	Shadow Word: Death	
3	Shadowform	
3	Acolyte of Pain	2
3	Deathlord	
4	Sen'jin Shieldmasta	
4	Tournament Medic	2
5	Excavated Evil	
5	Holy Nova	
5	Antique Healbot	2
5	Loatheb	★
5	Sludge Belcher	
6	Entomb	
6	Holy Fire	
6	Lightbomb	
6	Cabal Shadow Priest	
6	Kodorider	
6	Sylvanas Windrunner	★
5	20	
1	5%	2 10%

Epix

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HS Replay

- Tracks games directly from hearthstone servers to find statistical data.
- Live data. In real time.
- Meta tier list. Win percentages of decks and cards.
- Archetype Matchups.
- Mulligan Guide.

Demon Hunter			
Archetype ▲▼	Winrate ▲▼	Popularity ▼	Games ▼
Deathrattle Demon Hu...	54.1%	1.6%	12,000
Big Demon Hunter	49.0%	1.4%	11,000
Quest Lifesteal Demon...	37.7%	0.6%	4,400
Quest Demon Hunter	34.8%	0.5%	3,900
Fel Demon Hunter	40.8%	0.4%	3,000
Other	39.4%	2.7%	21,000

Druid			
Archetype ▲▼	Winrate ▲▼	Popularity ▼	Games ▼
Aggro Druid	59.3%	5.6%	44,000
Anaconda Druid	45.2%	1.9%	14,000
Clown Druid	56.0%	0.8%	6,300
Quest Druid	43.7%	0.7%	5,300
Mal'gus Druid	48.2%	0.5%	4,100
Other	44.2%	2.4%	19,000

Hunter			
Archetype ▲▼	Winrate ▲▼	Popularity ▼	Games ▼
Face Hunter	54.5%	4.9%	38,000
Quest Hunter	49.6%	2.1%	16,000
Beast Hunter	40.0%	0.09%	740
Other	34.8%	1.6%	12,000

Mage			
Archetype ▲▼	Winrate ▲▼	Popularity ▼	Games ▼
Quest Mage	44.2%	7.2%	56,000
Ping Mage	44.6%	1.3%	9,900
Mozaki OTK Mage	43.9%	0.6%	4,500
Other	39.3%	2.7%	21,000

Paladin			
Archetype ▲▼	Winrate ▲▼	Popularity ▼	Games ▼
Handbuff Paladin	55.1%	1.9%	14,000
Secret Libram Paladin	58.9%	1.8%	14,000
Libram Paladin	54.6%	1.7%	13,000
Quest Paladin	49.0%	0.9%	6,600
Secret Paladin	55.7%	0.6%	4,900
Other	40.0%	1.4%	11,000

Priest			
Archetype ▲▼	Winrate ▲▼	Popularity ▼	Games ▼
Big Priest	45.8%	1.9%	14,000
Quest Priest	42.4%	1.5%	12,000
Rally Priest	46.8%	1.0%	7,500
Aggro Shadow Priest	51.0%	0.8%	5,800
Corrupt Priest	46.5%	0.2%	1,500
Control Priest	40.7%	0.2%	1,400
Other	45.6%	5.3%	41,000

Rogue			
Archetype ▲▼	Winrate ▲▼	Popularity ▼	Games ▼
Quest Rogue	54.5%	2.8%	22,000
Garrote Rogue	33.4%	0.8%	6,200
Poison Rogue	43.8%	0.6%	4,500
Miracle Rogue	38.8%	0.6%	4,500
Other	30.8%	0.9%	6,900

Shaman			
Archetype ▲▼	Winrate ▲▼	Popularity ▼	Games ▼
Elemental Shaman	57.1%	2.5%	19,000
Quest Shaman	51.6%	2.3%	18,000
Aggro Elemental Sham...	55.0%	1.2%	9,700
Menagerie Shaman	46.7%	0.6%	4,500
Other	38.6%	1.4%	11,000

Warlock			
Archetype ▲▼	Winrate ▲▼	Popularity ▼	Games ▼
Quest Hand Warlock	57.1%	2.8%	22,000
Quest Zoo Warlock	46.7%	1.2%	9,100
Control Warlock	38.9%	1.1%	8,600
Quest Warlock	49.5%	1.0%	8,100
Zoo Warlock	52.8%	1.0%	7,800
Other	40.2%	1.5%	11,000

Warrior			
Archetype ▲▼	Winrate ▲▼	Popularity ▼	Games ▼
Quest Warrior	61.2%	15.4%	120,000
Big Warrior	50.2%	0.8%	6,100
Other	40.8%	2.1%	16,000

[illegible]

Card ▲		Mulligan WR ▲▼ ⓘ	Kept ▲▼ ⓘ	Drawn WR ▲▼ ⓘ	Played WR ▲▼ ⓘ	Turns Held ▲▼ ⓘ	Turn Played ▲▼ ⓘ
1	Adorable Infestation 2	▲67.5%	74.9%	▼61.5%	▲62.9%	0.9	4.1
1	Arcane Anomaly 2	▲65.8%	94.6%	▼61.1%	▼60.3%	0.6	3.3
1	Demon Companion 2	▲64.7%	93.3%	▼61.1%	▼60.1%	0.6	3.7
1	Guardian Augmerchant 2	▼62.2%	37.4%	▼58.6%	▼57.4%	1.2	4.6
1	Intrepid Initiate 2	▲66.1%	96.1%	▼60.8%	▼60.0%	0.5	3.1
1	Wolpertinger 2	▲64.8%	81.7%	▼59.5%	▼57.5%	0.8	3.9
1	Wound Prey 2	▼62.0%	62.9%	▼58.7%	▼56.3%	1.1	4.4
2	Doggie Biscuit 2	▼60.5%	60.3%	▼59.3%	▲64.5%	1.1	4.2
2	Quick Shot 2	▼55.4%	23.0%	▼58.2%	▼55.1%	1.9	6
3	Aimed Shot 2	▼55.5%	21.8%	▼59.1%	▼58.3%	1.5	5.7
3	Ramming Mount 2	▲63.3%	41.0%	▼58.8%	▼62.2%	1.6	5.3
4	Piercing Shot 2	▼54.7%	9.1%	▼57.8%	▼55.5%	1.7	6.1
4	Rinling's Rifle ★	▼60.2%	25.3%	▼61.6%	▼59.0%	1.6	5.5
4	Warsong Wrangler 2	▼59.5%	26.5%	▼60.4%	▼59.4%	1.4	5.3
5	Barak Kodobane ★	▼59.1%	13.8%	▼59.7%	▼56.0%	2	6.2
5	Tramplng Rhino 2	▼53.4%	3.8%	▼58.6%	▼55.5%	1.8	6.4

The screenshot displays the Hearthstone website's Standard meta page. On the left, a sidebar contains navigation links: Legend, Ranked, and All players. The main content area features a table of top decks. The first four decks are Midrange Mage (58.9%, 81,500), Gold Warrior (56.2%, 79,900), Secret Paladin (52.1%, 66,000), and Divine Priest (54.4%, 51,000). A 'Best Deck' card is highlighted with a 9/12 rating. The bottom of the page shows a deck list for a Mage deck.

Deck Name	Win Rate	Games Played	Deck Type	Deck Image
Midrange Mage	58.9%	81,500	Mage	
Gold Warrior	56.2%	79,900	Warrior	
Secret Paladin	52.1%	66,000	Paladin	
Divine Priest	54.4%	51,000	Priest	

Best Deck: 9/12

Deck List: Mage

Citations

Mesentier, Canaan, Lee, Fontaine, Togelius, and Hoover. 2019. "Evolving the Hearthstone Meta." New York University and New Jersey Institute of Technology.