



100m Butterfly

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Introduction

I chose men's 100 meter butterfly because I had learn to swim before, but butterfly is the only one I will not swim. I haven't watched men's 100m butterfly on TV during the Olympics before, but I known a little about Olympics. I heard my dad said, Phelps Michael is the world record holder on the 100-meter butterfly, 200-meter butterfly and 400-meter individual medley, I think he is really cool and amazing. So is the two reason why I choose men's 100 meter butterfly to be my topic.

Table

Year	Internet/ Raw Data Time (sec)	Linear Data Time	Exp. Data w/12 years	Exp. Data w/5 years
1968	55.9	55.382	55.409	54.739
1972	54.27	54.951	54.961	54.364
1976	54.35	54.52	54.517	53.992
1980	54.92	54.09	54.076	53.623
1984	53.08	53.659	53.639	53.256
1988	53	53.228	53.205	52.891
1992	53.32	52.797	52.775	52.529
1996	52.27	52.366	52.348	52.17
2000	52	51.935	51.925	51.813
2004	51.25	51.505	51.505	51.458
2008	50.58	51.074	51.088	51.106
2012	51.21	50.643	50.675	50.757

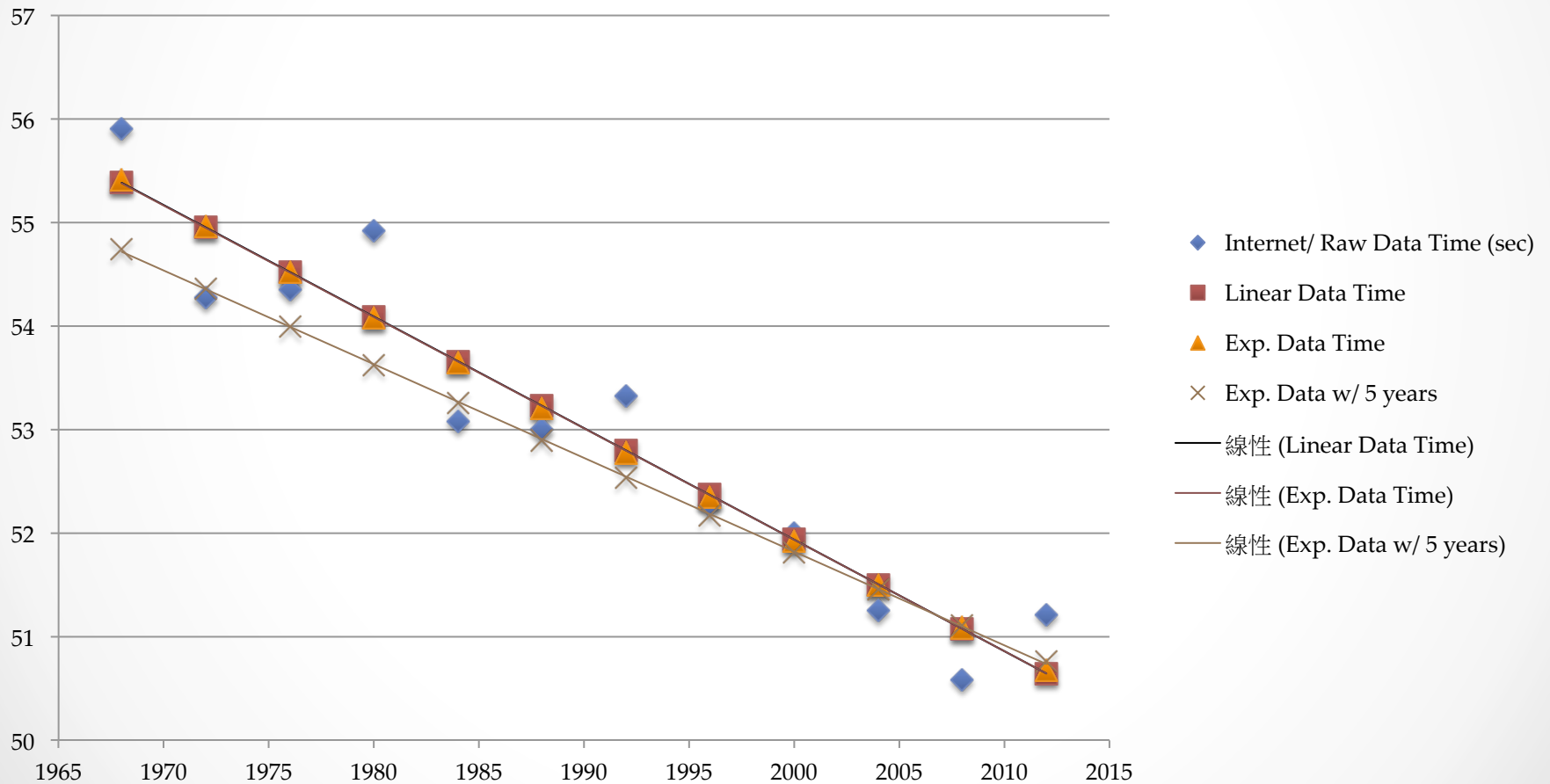
Regression Formulas

Linear Regression Equation: $y = -0.107701049x + 267.3375874$

Exponential Regression Equation w/12 years: $y = 3008.878692(0.9979722957)^x$

Exponential Regression Equation w/5 years: $y = 1604.859499(0.9982848972)^x$

Graph



Project Summary

There isn't a year where a performance stands out in men's 100 meter butterfly. Many situation could influence the athletes. For example, physical conditions and mental status. In fact, everything can become one of the factors that effect the athletes. I think the linear regression is a good model for this data because it almost fits the exp. data. I also think quadratic regression is a good model because the data is close to exp. data. But I think the better data is the exp. w/12 years because it has more data than others that means it is more accurate. I predict the result of men's 100 meter butterfly would be 50.00 seconds in 2024.