Interval Estimation Policy

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| --- | --- |
| JavaScript (me) |  |
| Python (Powell) |  |

[Page 80 in “Optimal Learning”](https://books.google.com.hk/books?id=_bURAAAAQBAJ&pg=PA86&lpg=PA86&dq=%22powell%22+%22interval+estimation+policy%22&source=bl&ots=e3aSUX4BsH&sig=ACfU3U3eUDzUP01VAa45mY-eeUlATHRn6g&hl=zh-TW&sa=X&ved=2ahUKEwjb6Zi9qq38AhWOlFYBHffHBtE4ChDoAXoECAQQAw#v=onepage&q=%22powell%22%20%22interval%20estimation%20policy%22&f=false) by Powell

Given a precision , the accumulated precision after making n measurements is 

The accumulated precision of a choice  is Text

Description automatically generated

The estimated mean is Text

Description automatically generated

(“otherwise” 🡪 only update priors that is observed)

Prior belief (,Text

Description automatically generated with medium confidence) about the random variable (which has a mean  vs estimated mean ) is 0 at initialization

IE value is defined as Text

Description automatically generated, where A picture containing text, clock

Description automatically generated “the standard deviation of the distribution of our belief at time n”