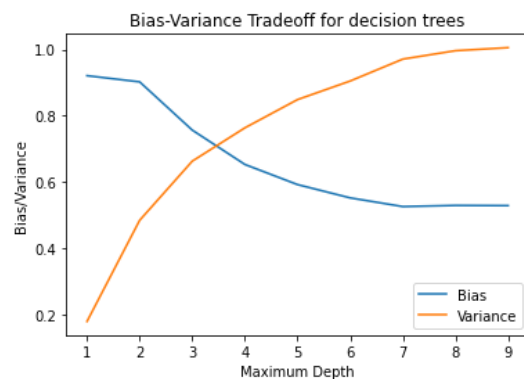As can be seen from the tradeoff curve, the intersection for bias and variance comes at around a maximum depth of 3 for sample size 30 and considering 5 models.

With varying sample size, the tradeoff curve changes as follows:

Sample size = 40

Sample size = 20

Time Analysis:

92.6 ms ± 6.49 ms per loop (mean ± std. dev. of 7 runs, 1 loop each)