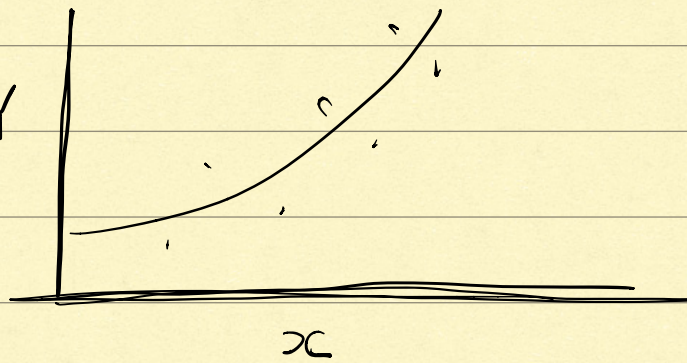
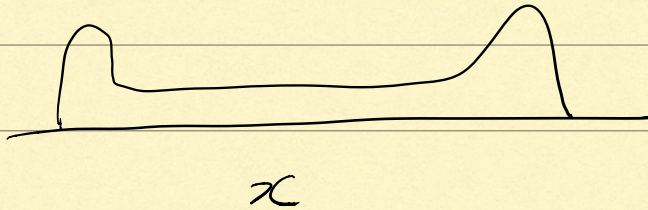


PS 7

Y



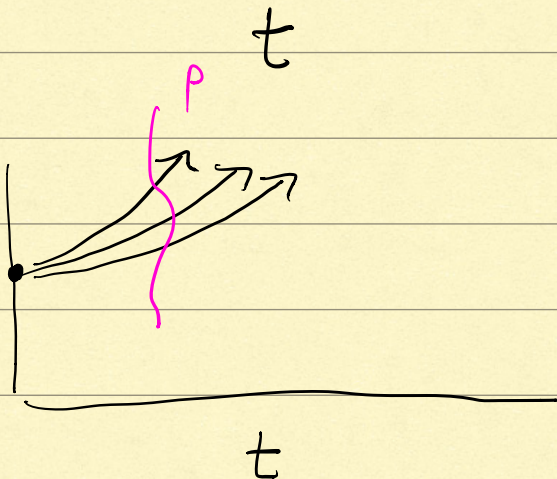
$p_x(x)$



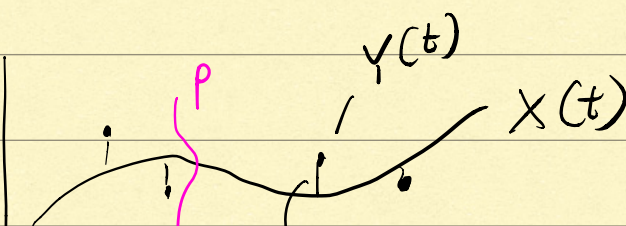
OVERVIEW OF STOCHASTICITY



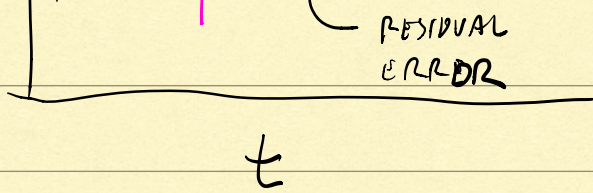
STOCHASTIC DYNAMICS
STOCHASTIC PROCESS



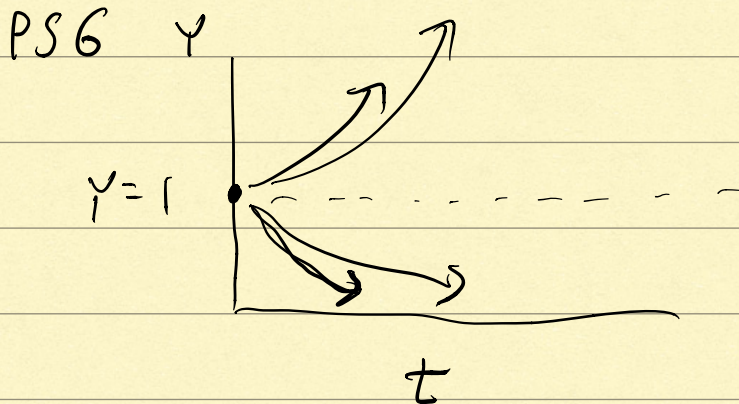
PARAMETRIC NOISE
HETEROGENEITY
BATCH EFFECT



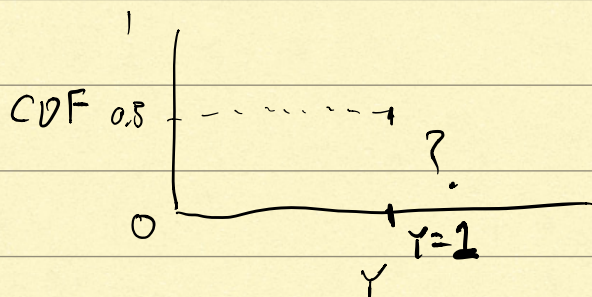
OBSERVATION NOISE



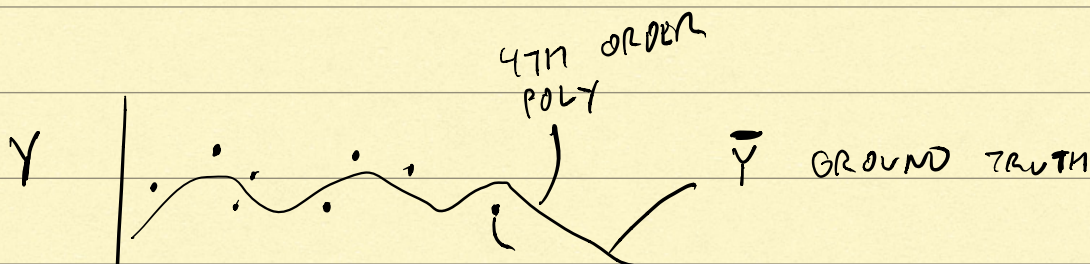
MAXIMUM LIKELIHOOD STRATEGY ALWAYS EXISTS

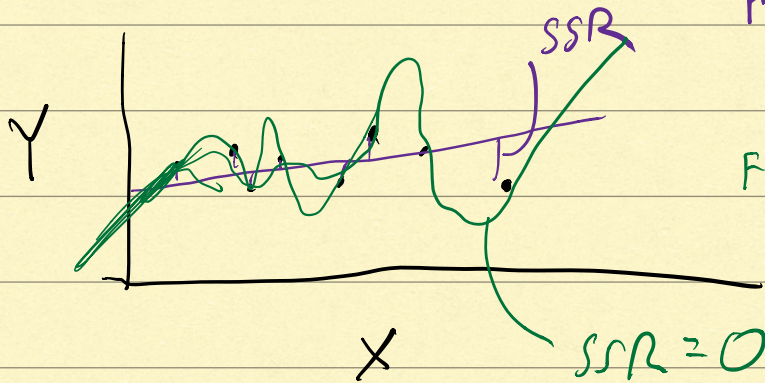
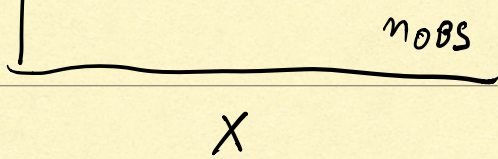


$$P(Y(t) \geq 1) = \int_1^{\infty} p_Y(y; t) dy$$



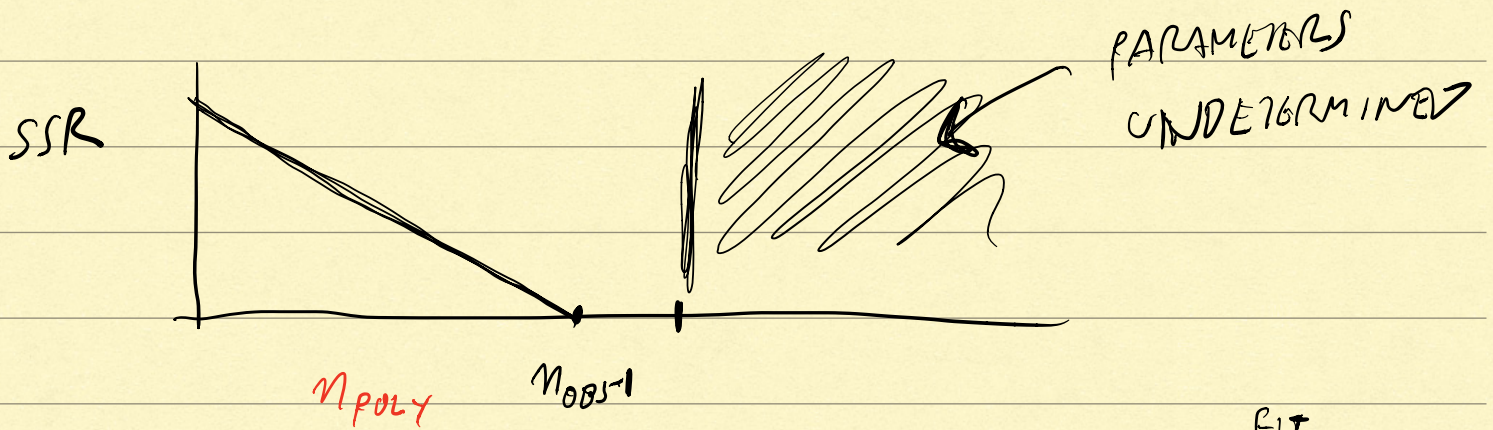
VARIANCE-BIAS TRADE OFF
& MODEL COMPLEXITY





FIT TO $n_{POLY} = 1$ POLYNOMIAL

FIT TO $n_{POLY} = 7$ POLYNOMIAL



GOODNESS OF FIT

$$GOR = \sum_{i=1}^{n_{OBS}} \left(\bar{y} - \overset{\text{FIT}}{\underset{\substack{\uparrow \\ \text{GROUND TRUTH}}}{y(t_i)}} \right)^2$$

