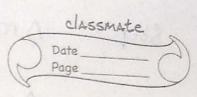
Stocastic Gradient Descent Algorithm (Assignment) Sample(i) x; 4; 1 0-2 3-4 2 0.4 3.8 Step1: m=1, = c--1, m=0.1, epochs = 2 Step 2: Ptul- to Step 3: 8ample 1 Step 4: 00 = 1 (Y;-mx;-c) 30 = - (Y1-mx1-c) >19 = -0.84 de = - (Y1-m×1-c) = -4-2 Step 5: Am = -11.26 = (0.1)(0.84) = 0.084 AC= - M 2 = +0-1) (-4.2) = 0.42 m=m+ Am = 1+0.084 = 1.084 Step 6! C=C+DC=-1+0.42=-0.58 Step 7: sample = sample + 1 = 2 goto step 4 [sample cns] Step 8: Step 4: de = - (Ya-mxa-c)x2 = -1.57856 $\frac{\partial f}{\partial c} = -(y_2 - mx_2 - c) = -3.9464$ $\Delta m = -1.2\epsilon = (-0.1)(-1.57856) = 0.157856$ 8tep 5: DC= -1.26, (-0.1)(-3,9864) 0.39464



Step 6: m= m+ Dm = 1.084+0.157856 = 1.241856 C= C+ DC = -0.58 +0.39464 = -0.18536 Step 7: Sample = sample +1 = 3 step 8: goto next step [sample 4n;] Step 9: Pter = iter +1 = 1 (action exports) step 10: if (Pter = iter +1 = 1) (iter cepachs)
goto step 3 1 < 2 Step 1: Sample = 1 Step 4: DE - (Y-mx,-c)x,=-0.66739776 de = - (y; -mx; -c) = -3.3369888. Step 5: Am = -4.2e -(0.1) (-0.66739776) = 0.06673978 1 C = -1.86 - -(0.1)(-3.3369888) = 0.33369888 Step 6: m= m+ Dm = (1.241856)+0.06673978 = 1,30859578 C=C+DC = (-0.18536)+ (0.33369888)=1.4833888 Step 7: sample = sample + 1 = 2 Step 8: goto step 4 [sample <ns] Step 4: 26 -- (Y2-mx2-c) x2 = -1.251 28912 3c = - (Y2-mx2-c) = -3.12822281

10251 7 CT 5 - (9115 972 9.1 1773

Scanned with CamScanner

1 m = -12t = -(0.1)(-1.25128912) = 0-125124 Step 5: DC = -486 = -(0.1) (-3.12822281) = 0.3128222 m= m+ Am = 1.80859578+0.12512891=1.433704 Step 6: C= C+DC = U-14833888+0.31282228 = 0.4646116 sample = samplet 1 = 3 Step 7: goto step4 (3ample 7ns) Step 8: 3 7 0% Step 9: Pter=iter+1 = 2 if (2 \$ 2) Step 10: Step 1 : sample 1 go to step 11 Step 11: m=[1.43372469 C= 0.46116116. MISE = 7.34037848. 8. No son A = 2 9538 SPRESSIBLE (EDRIPSEE 2.) (10) - 36. Pr = 3 2 A

Step 61 me me Anti = (L. Still EG) + a configuration