C:\Users\lililiu\AppData\Local\Programs\Python\Python36\python.exe "C:/Users/lililiu/Desktop/Lung cancer classification/cnn\_for\_lung.py"

number of training examples = 85

number of test examples = 80

X\_train shape: (85, 64, 64, 3)

Y\_train shape: (85, 6)

X\_test shape: (80, 64, 64, 3)

Y\_test shape: (80, 6)

X = Tensor("Placeholder:0", shape=(?, 64, 64, 3), dtype=float32)

Y = Tensor("Placeholder\_1:0", shape=(?, 6), dtype=float32)

2018-11-28 17:22:54.948368: I tensorflow/core/platform/cpu\_feature\_guard.cc:141] Your CPU supports instructions that this TensorFlow binary was not compiled to use: AVX2

W1 = [ 0.00131723 0.1417614 -0.04434952 0.09197326 0.14984085 -0.03514394

-0.06847463 0.05245192]

W2 = [-0.08566415 0.17750949 0.11974221 0.16773748 -0.0830943 -0.08058

-0.00577033 -0.14643836 0.24162132 -0.05857408 -0.19055021 0.1345228

-0.22779644 -0.1601823 -0.16117483 -0.10286498]

Z3 = [[ 1.4416984 -0.24909666 5.450499 -0.2618962 -0.20669907 1.3654671 ]

[ 1.4070846 -0.02573211 5.08928 -0.48669922 -0.40940708 1.2624859 ]]

WARNING:tensorflow:From C:/Users/lililiu/Desktop/Lung cancer classification/cnn\_for\_lung.py:186: softmax\_cross\_entropy\_with\_logits (from tensorflow.python.ops.nn\_ops) is deprecated and will be removed in a future version.

Instructions for updating:

Future major versions of TensorFlow will allow gradients to flow

into the labels input on backprop by default.

See `tf.nn.softmax\_cross\_entropy\_with\_logits\_v2`.

cost = 4.6648693

Cost after epoch 0: 4.002462

Cost after epoch 5: 1.389431

Cost after epoch 10: 1.250668

Cost after epoch 15: 1.170777

Cost after epoch 20: 1.327734

Cost after epoch 25: 1.208582

Cost after epoch 30: 1.214817

Cost after epoch 35: 1.190996

Cost after epoch 40: 1.117879

Cost after epoch 45: 1.091950

Cost after epoch 50: 1.129029

Cost after epoch 55: 1.136141

Cost after epoch 60: 1.058005

Cost after epoch 65: 1.047065

Cost after epoch 70: 1.094677

Cost after epoch 75: 0.909810

Cost after epoch 80: 0.962986

Cost after epoch 85: 1.021731

Cost after epoch 90: 0.866396

Cost after epoch 95: 0.857209

Cost after epoch 100: 0.745350

Cost after epoch 105: 0.747698

Cost after epoch 110: 0.725967

Cost after epoch 115: 0.653534

Cost after epoch 120: 0.638247

Cost after epoch 125: 0.549278

Cost after epoch 130: 0.572191

Cost after epoch 135: 0.727355

Cost after epoch 140: 0.450712

Cost after epoch 145: 0.376173

Cost after epoch 150: 0.354465

Cost after epoch 155: 0.438713

Cost after epoch 160: 0.299136

Cost after epoch 165: 0.313230

Cost after epoch 170: 0.223635

Cost after epoch 175: 0.196559

Cost after epoch 180: 0.226430

Cost after epoch 185: 0.177547

Cost after epoch 190: 0.143351

Cost after epoch 195: 0.133730

Cost after epoch 200: 0.110199

Cost after epoch 205: 0.115426

Cost after epoch 210: 0.094748

Cost after epoch 215: 0.115604

Cost after epoch 220: 0.089120

Cost after epoch 225: 0.065983

Cost after epoch 230: 0.060760

Cost after epoch 235: 0.065715

Cost after epoch 240: 0.039628

Cost after epoch 245: 0.055193

Cost after epoch 250: 0.055271

Cost after epoch 255: 0.035718

Cost after epoch 260: 0.030817

Cost after epoch 265: 0.035490

Cost after epoch 270: 0.030210

Cost after epoch 275: 0.027953

Cost after epoch 280: 0.024380

Cost after epoch 285: 0.022343

Cost after epoch 290: 0.023259

Cost after epoch 295: 0.020971

Cost after epoch 300: 0.020974

Cost after epoch 305: 0.018930

Cost after epoch 310: 0.016825

Cost after epoch 315: 0.018048

Cost after epoch 320: 0.016187

Cost after epoch 325: 0.016058

Cost after epoch 330: 0.016177

Cost after epoch 335: 0.012746

Cost after epoch 340: 0.014385

Cost after epoch 345: 0.016149

Cost after epoch 350: 0.012445

Cost after epoch 355: 0.012415

Cost after epoch 360: 0.011412

Cost after epoch 365: 0.011235

Cost after epoch 370: 0.010050

Cost after epoch 375: 0.010492

Cost after epoch 380: 0.010799

Cost after epoch 385: 0.008508

Cost after epoch 390: 0.007935

Cost after epoch 395: 0.008122

Cost after epoch 400: 0.008035

Cost after epoch 405: 0.008729

Cost after epoch 410: 0.007579

Cost after epoch 415: 0.006829

Cost after epoch 420: 0.007346

Cost after epoch 425: 0.007136

Cost after epoch 430: 0.007762

Cost after epoch 435: 0.006340

Cost after epoch 440: 0.006744

Cost after epoch 445: 0.006209

Cost after epoch 450: 0.005944

Cost after epoch 455: 0.005971

Cost after epoch 460: 0.006554

Cost after epoch 465: 0.005047

Cost after epoch 470: 0.005182

Cost after epoch 475: 0.004975

Cost after epoch 480: 0.005676

Cost after epoch 485: 0.005198

Cost after epoch 490: 0.004700

Cost after epoch 495: 0.004803

Cost after epoch 500: 0.003684

Cost after epoch 505: 0.003772

Cost after epoch 510: 0.004314

Cost after epoch 515: 0.004261

Cost after epoch 520: 0.004109

Cost after epoch 525: 0.003813

Cost after epoch 530: 0.003855

Cost after epoch 535: 0.004149

Cost after epoch 540: 0.003883

Cost after epoch 545: 0.003535

Cost after epoch 550: 0.003430

Cost after epoch 555: 0.003335

Cost after epoch 560: 0.003315

Cost after epoch 565: 0.003780

Cost after epoch 570: 0.002911

Cost after epoch 575: 0.003777

Cost after epoch 580: 0.003279

Cost after epoch 585: 0.002775

Cost after epoch 590: 0.002992

Cost after epoch 595: 0.003167

Cost after epoch 600: 0.002507

Cost after epoch 605: 0.002781

Cost after epoch 610: 0.003086

Cost after epoch 615: 0.002546

Cost after epoch 620: 0.002166

Cost after epoch 625: 0.002713

Cost after epoch 630: 0.002789

Cost after epoch 635: 0.002117

Cost after epoch 640: 0.002290

Cost after epoch 645: 0.002191

Cost after epoch 650: 0.002324

Cost after epoch 655: 0.002139

Cost after epoch 660: 0.002390

Cost after epoch 665: 0.002235

Cost after epoch 670: 0.002103

Cost after epoch 675: 0.002063

Cost after epoch 680: 0.002054

Cost after epoch 685: 0.002071

Cost after epoch 690: 0.001719

Cost after epoch 695: 0.002076

Cost after epoch 700: 0.001593

Cost after epoch 705: 0.001752

Cost after epoch 710: 0.001896

Cost after epoch 715: 0.001801

Cost after epoch 720: 0.001814

Cost after epoch 725: 0.001583

Cost after epoch 730: 0.001741

Cost after epoch 735: 0.001546

Cost after epoch 740: 0.001658

Cost after epoch 745: 0.001647

Cost after epoch 750: 0.001663

Cost after epoch 755: 0.001612

Cost after epoch 760: 0.001654

Cost after epoch 765: 0.001682

Cost after epoch 770: 0.001436

Cost after epoch 775: 0.001472

Cost after epoch 780: 0.001411

Cost after epoch 785: 0.001503

Cost after epoch 790: 0.001255

Cost after epoch 795: 0.001353

Cost after epoch 800: 0.001383

Cost after epoch 805: 0.001146

Cost after epoch 810: 0.001209

Cost after epoch 815: 0.001340

Cost after epoch 820: 0.001372

Cost after epoch 825: 0.001199

Cost after epoch 830: 0.001159

Cost after epoch 835: 0.001255

Cost after epoch 840: 0.001210

Cost after epoch 845: 0.001300

Cost after epoch 850: 0.001100

Cost after epoch 855: 0.001276

Cost after epoch 860: 0.001209

Cost after epoch 865: 0.001075

Cost after epoch 870: 0.001037

Cost after epoch 875: 0.001126

Cost after epoch 880: 0.001026

Cost after epoch 885: 0.001105

Cost after epoch 890: 0.000919

Cost after epoch 895: 0.000866

Cost after epoch 900: 0.000916

Cost after epoch 905: 0.000995

Cost after epoch 910: 0.001119

Cost after epoch 915: 0.000962

Cost after epoch 920: 0.001053

Cost after epoch 925: 0.000931

Cost after epoch 930: 0.001030

Cost after epoch 935: 0.000935

Cost after epoch 940: 0.000868

Cost after epoch 945: 0.001018

Cost after epoch 950: 0.000949

Cost after epoch 955: 0.000824

Cost after epoch 960: 0.000844

Cost after epoch 965: 0.000815

Cost after epoch 970: 0.000767

Cost after epoch 975: 0.000747

Cost after epoch 980: 0.000780

Cost after epoch 985: 0.000822

Cost after epoch 990: 0.000722

Cost after epoch 995: 0.000846

Cost after epoch 1000: 0.000723

Cost after epoch 1005: 0.000857

Cost after epoch 1010: 0.000739

Cost after epoch 1015: 0.000750

Cost after epoch 1020: 0.000759

Cost after epoch 1025: 0.000769

Cost after epoch 1030: 0.000802

Cost after epoch 1035: 0.000729

Cost after epoch 1040: 0.000783

Cost after epoch 1045: 0.000716

Cost after epoch 1050: 0.000743

Cost after epoch 1055: 0.000669

Cost after epoch 1060: 0.000673

Cost after epoch 1065: 0.000674

Cost after epoch 1070: 0.000593

Cost after epoch 1075: 0.000699

Cost after epoch 1080: 0.000601

Cost after epoch 1085: 0.000596

Cost after epoch 1090: 0.000616

Cost after epoch 1095: 0.000644

Cost after epoch 1100: 0.000637

Cost after epoch 1105: 0.000623

Cost after epoch 1110: 0.000535

Cost after epoch 1115: 0.000622

Cost after epoch 1120: 0.000589

Cost after epoch 1125: 0.000572

Cost after epoch 1130: 0.000595

Cost after epoch 1135: 0.000514

Cost after epoch 1140: 0.000582

Cost after epoch 1145: 0.000565

Cost after epoch 1150: 0.000557

Cost after epoch 1155: 0.000538

Cost after epoch 1160: 0.000537

Cost after epoch 1165: 0.000550

Cost after epoch 1170: 0.000618

Cost after epoch 1175: 0.000533

Cost after epoch 1180: 0.000545

Cost after epoch 1185: 0.000511

Cost after epoch 1190: 0.000506

Cost after epoch 1195: 0.000425

Tensor("Mean\_1:0", shape=(), dtype=float32)

Train Accuracy: 1.0

Test Accuracy: 0.7