Each observation is a 30m x 30m patch. You are asked to predict an integer classification for the forest cover type. The seven types are:

1 - Spruce/Fir  
2 - Lodgepole Pine  
3 - Ponderosa Pine  
4 - Cottonwood/Willow  
5 - Aspen  
6 - Douglas-fir  
7 - Krummholz

The training set (15120 observations) contains both features and the Cover\_Type. The test set contains only the features. You must predict the Cover\_Type for every row in the test set (565892 observations).

Data Fields

Elevation - Elevation in meters  
Aspect - Aspect in degrees azimuth  
Slope - Slope in degrees  
Horizontal\_Distance\_To\_Hydrology - Horz Dist to nearest surface water features  
Vertical\_Distance\_To\_Hydrology - Vert Dist to nearest surface water features  
Horizontal\_Distance\_To\_Roadways - Horz Dist to nearest roadway  
Hillshade\_9am (0 to 255 index) - Hillshade index at 9am, summer solstice  
Hillshade\_Noon (0 to 255 index) - Hillshade index at noon, summer solstice  
Hillshade\_3pm (0 to 255 index) - Hillshade index at 3pm, summer solstice  
Horizontal\_Distance\_To\_Fire\_Points - Horz Dist to nearest wildfire ignition points  
Wilderness\_Area (4 binary columns, 0 = absence or 1 = presence) - Wilderness area designation  
Soil\_Type (40 binary columns, 0 = absence or 1 = presence) - Soil Type designation  
Cover\_Type (7 types, integers 1 to 7) - Forest Cover Type designation

The wilderness areas are:

1 - Rawah Wilderness Area  
2 - Neota Wilderness Area  
3 - Comanche Peak Wilderness Area  
4 - Cache la Poudre Wilderness Area

The soil types are:

1 Cathedral family - Rock outcrop complex, extremely stony.  
2 Vanet - Ratake families complex, very stony.  
3 Haploborolis - Rock outcrop complex, rubbly.  
4 Ratake family - Rock outcrop complex, rubbly.  
5 Vanet family - Rock outcrop complex complex, rubbly.  
6 Vanet - Wetmore families - Rock outcrop complex, stony.  
7 Gothic family.  
8 Supervisor - Limber families complex.  
9 Troutville family, very stony.  
10 Bullwark - Catamount families - Rock outcrop complex, rubbly.  
11 Bullwark - Catamount families - Rock land complex, rubbly.  
12 Legault family - Rock land complex, stony.  
13 Catamount family - Rock land - Bullwark family complex, rubbly.  
14 Pachic Argiborolis - Aquolis complex.  
15 unspecified in the USFS Soil and ELU Survey.  
16 Cryaquolis - Cryoborolis complex.  
17 Gateview family - Cryaquolis complex.  
18 Rogert family, very stony.  
19 Typic Cryaquolis - Borohemists complex.  
20 Typic Cryaquepts - Typic Cryaquolls complex.  
21 Typic Cryaquolls - Leighcan family, till substratum complex.  
22 Leighcan family, till substratum, extremely bouldery.  
23 Leighcan family, till substratum - Typic Cryaquolls complex.  
24 Leighcan family, extremely stony.  
25 Leighcan family, warm, extremely stony.  
26 Granile - Catamount families complex, very stony.  
27 Leighcan family, warm - Rock outcrop complex, extremely stony.  
28 Leighcan family - Rock outcrop complex, extremely stony.  
29 Como - Legault families complex, extremely stony.  
30 Como family - Rock land - Legault family complex, extremely stony.  
31 Leighcan - Catamount families complex, extremely stony.  
32 Catamount family - Rock outcrop - Leighcan family complex, extremely stony.  
33 Leighcan - Catamount families - Rock outcrop complex, extremely stony.  
34 Cryorthents - Rock land complex, extremely stony.  
35 Cryumbrepts - Rock outcrop - Cryaquepts complex.  
36 Bross family - Rock land - Cryumbrepts complex, extremely stony.  
37 Rock outcrop - Cryumbrepts - Cryorthents complex, extremely stony.  
38 Leighcan - Moran families - Cryaquolls complex, extremely stony.  
39 Moran family - Cryorthents - Leighcan family complex, extremely stony.  
40 Moran family - Cryorthents - Rock land complex, extremely stony.