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(* Get the data from file for both the raw points and the LSHEP fit*)
localDir = "~/Analytics/Data/VarSys/Test/";
prefix = "UPDATED_"; (*"ORIGINAL_";*)
specStr = localDir <> prefix <>
    "new--HDD--yes--xen--CFQ--DEAD--128--All--All--128--Fwrite--2500000--F_size--
    R_Size";
dataFileName = specStr <> ".txt";
lshepFileName = specStr <> ".out";
tstFileName = specStr <> ".tst";
actFileName = specStr <> ".act";

rawData = ReadList[dataFileName, {Number, Number, Number}];
lshepData = ReadList[lshepFileName, {Number, Number, Number}];
tstData = ReadList[tstFileName, {Number, Number, Number}];
actData = ReadList[actFileName, {Number, Number, Number}];

GetRange[d_, n_] := (Max[d[[;;, n]]] - Min[d[[;;, n]]]) / 100;

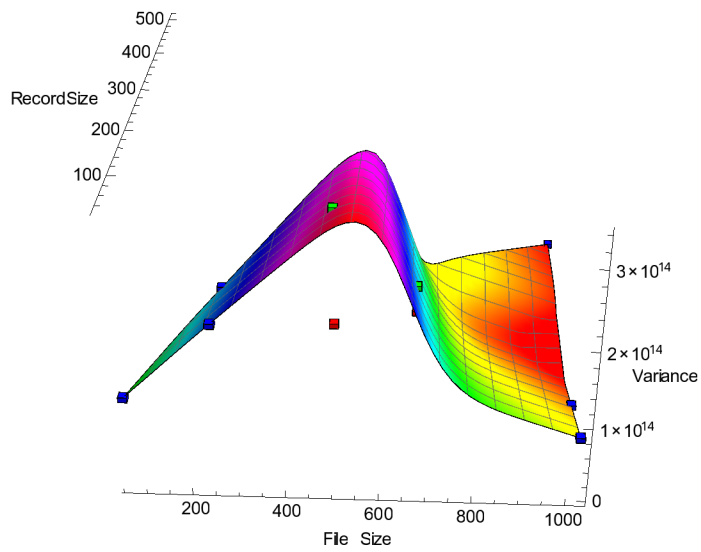
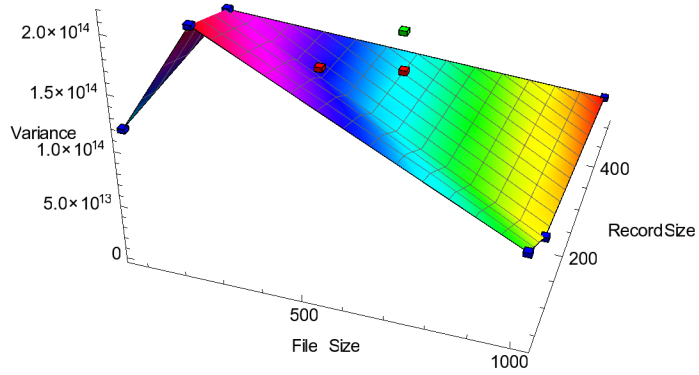
(* Figure out what size the Cuboids should be
   and get them for each set of interesting points *)
CubeSize := {GetRange[rawData, 1], GetRange[rawData, 2], GetRange[rawData, 3]};
f[x_] := {Blue, Cuboid[x - CubeSize, x + CubeSize]};
rawPoints = Join@@(f/@rawData);
f[x_] := {Green, Cuboid[x - CubeSize, x + CubeSize]};
tstPoints = Join@@(f/@tstData);
f[x_] := {Red, Cuboid[x - CubeSize, x + CubeSize]};
actPoints = Join@@(f/@actData);
(* Make the plot and show it (focused on the raw data) *)
plot = ListPlot3D[rawData, ColorFunction -> Hue, Boxed -> False,
    MeshStyle -> GrayLevel[0.4, 0.7], BoxRatios -> {1, 1, 0.7},
    AxesLabel -> {"File Size", "Record Size", "Variance"}];
p1 = Show[plot, Graphics3D[rawPoints], Graphics3D[tstPoints], Graphics3D[actPoints]]

(* Figure out what size the Cuboids should be
   and get them for each set of interesting points *)
CubeSize := {GetRange[lshepData, 1], GetRange[lshepData, 2], GetRange[lshepData, 3]};
f[x_] := {Blue, Cuboid[x - CubeSize, x + CubeSize]};
rawPoints = Join@@(f/@rawData);
f[x_] := {Green, Cuboid[x - CubeSize, x + CubeSize]};
tstPoints = Join@@(f/@tstData);
f[x_] := {Red, Cuboid[x - CubeSize, x + CubeSize]};
actPoints = Join@@(f/@actData);
(* Make the plot and show it (focused on the raw data) *)
plot = ListPlot3D[lshepData, ColorFunction -> Hue,
    Boxed -> False, MeshStyle -> GrayLevel[0.4, 0.7], InterpolationOrder -> 1,
    BoxRatios -> {1, 1, 0.7}, AxesLabel -> {"File Size", "Record Size", "Variance"}];
p2 = Show[plot, Graphics3D[rawPoints], Graphics3D[tstPoints], Graphics3D[actPoints]]

(* CloudDeploy[ExportForm[p1, "CloudCDF"], Permissions -> "Public"]
   CloudDeploy[ExportForm[p2, "CloudCDF"], Permissions -> "Public"] *)
(* Export[localDir <> "Plots/simple .ply",
    Show[plot1, Graphics3D[points], Graphics3D[testPoints]]] *)

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Original LSHEP Model (green \rightarrow guess, red \rightarrow actual)



Updated LSHEP Model (green \rightarrow guess, red \rightarrow actual)

