Result:



Matlab code:

%%------------DATA----------

[t, y] = spline\_data;

G = [];

A = [];

n = 13;

for i=0:10

[t1, t2, gpp] = bsplines(i);

G = [G; gpp'];

end

for i = 1:51

[g, gg, ggg] =bsplines(t(i));

A=[A; g'];

end

%%------------CVX-----------

cvx\_begin

variable x(13)

minimize norm(A\*x - y)

subject to

G\*x >= 0

cvx\_end

%%-----------Plot------------

fp = 0:.01:10;

fm = [];

for i=1:length(fp)

[g, gg1, ggg1] = bsplines(fp(i));

fm = [fm; g'];

end

f = fm\*x;

plot(t, y, 'go'), hold on,

plot(fp,f, 'm')