

Profile Summary (Total time: 2424.359 s)

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Function Name	Calls	Total Time (s)	Self Time* (s)	Total Time Plot (dark band = self time)
Boss_2_RC_nnls_accuracy	1	2424.359	0.081	
clientconstraint_fixedrank_equality_nonneg_lowrankcompletion	1	2424.244	0.065	
rlbfgs	53385	1626.083	18.633	
linsearch_hint	138193	1260.306	27.295	
getCost	3756655	1053.461	245.501	
exactpenaltyViaSmoothinglqh	2	600.498	6.830	
almbddmultiplier	1	600.343	0.239	
SQP	1	600.051	23.646	
exactpenaltyViaSmoothinglse	1	600.036	5.611	
hessianmatrix	9823	463.919	5.978	
getHessian	392920	423.311	16.694	
SQP>@(X,d)hessLagrangian(X,d,mus,lambdas)	196460	370.733	0.868	
SQP>hessLagrangian	196460	369.865	84.336	
...nk_equality_nonneg_lowrankcompletion>@(Y)nncostfun(Y,row,col)	56186424	360.664	150.129	
getCostGrad	191578	301.913	3.451	
getGradient	404508	286.569	25.638	
almbddmultiplier>@(X)cost_alm(X,problem0.rho,lambdas,gammas)	776329	264.605	15.490	
fixedrankembeddedfactory>projection	11997381	249.969	203.897	
almbddmultiplier>cost_alm	776329	249.115	77.411	
fixedrankembeddedfactory>ehess2rhess	6483180	238.481	91.126	
...nstraint_fixedrank_equality_nonneg_lowrankcompletion>nncostfun	56186424	210.535	210.535	
...tpenaltyViaSmoothinglse>@(X)grad_exactpenalty(X,problem0.rho)	94699	197.797	1.936	
exactpenaltyViaSmoothinglse>grad_exactpenalty	94699	189.326	71.854	
...ctpenaltyViaSmoothinglqh>@(X)cost_exactpenalty(X,problem0.rho)	579846	177.586	11.118	
exactpenaltyViaSmoothinglqh>cost_exactpenalty	579846	166.468	56.493	
...ctpenaltyViaSmoothinglse>@(X)cost_exactpenalty(X,problem0.rho)	463483	142.360	8.840	
exactpenaltyViaSmoothinglse>cost_exactpenalty	463483	133.521	46.150	
StoreDB>StoreDB.getNewKey	4206868	119.300	119.300	
...nk_equality_nonneg_lowrankcompletion>@(Y)eqcostfun(Y,row,col)	18223072	118.232	49.128	
...tpenaltyViaSmoothinglqh>@(X)grad_exactpenalty(X,problem0.rho)	117802	97.012	2.433	
fixedrankembeddedfactory>retraction	1810572	96.680	96.680	
fixedrankembeddedfactory>lincomb	14055121	91.738	91.738	
StoreDB>StoreDB.getWithShared	5090446	88.861	22.917	
exactpenaltyViaSmoothinglqh>grad_exactpenalty	117802	86.363	30.410	
StoreDB>StoreDB.remove	1628080	75.234	16.818	
StoreDB>StoreDB.setWithShared	4654938	72.965	30.423	
...nstraint_fixedrank_equality_nonneg_lowrankcompletion>eqcostfun	18223072	69.104	69.104	
exactpenaltyViaSmoothinglse>KKT_residual	23479	68.318	3.033	
StoreDB>StoreDB.get	5090446	65.944	65.944	
rmfield	1654971	59.769	59.769	
exactpenaltyViaSmoothinglqh>KKT_residual	29425	48.681	3.795	
StoreDB>StoreDB.set	4654938	42.541	42.541	
fixedrankembeddedfactory>apply_ambient	18480561	36.918	36.918	
SQP>gradLagrangian	19648	35.135	13.053	

fixedrankembeddedfactory>apply_ambient_transpose	18480561	30.014	30.014	'
tangentorthobasis	9823	29.722	0.792	
handle_light>handle_light.delete	2440595	28.833	28.833	
getEuclideanGradient	440390	26.070	10.399	
evaluation	53393	25.220	5.102	
SQP>@(x)loneMeritFunction(x,rho)	54122	24.304	0.278	
SQP>loneMeritFunction	54122	24.026	5.048	
orthogonalize	9823	23.415	8.819	
struct2csv	6	23.238	5.735	
SQP>KKT_residual	9824	23.192	1.091	
..@(x,d1,d2)d1.M(:).'*d2.M(:)+d1.Up(:).'*d2.Up(:)+d1.Vp(:).'*d2.Vp(:)	10748772	21.186	21.186	
num2str	595198	19.489	4.204	
fixedrankembeddedfactory>project_tangent	335988	15.122	1.160	
exactpenaltyViaSmoothinglqh>savestats	29423	14.990	0.967	
quadprog	9823	14.371	1.124	
num2str>handleNumericPrecision	453102	12.974	0.966	
...tconstraint_fixedrank_equality_nonneg_lowrankcompletion>objcost	1936788	12.960	12.960	
StoreDB>StoreDB.StoreDB	2440595	12.128	7.430	
num2str>convertUsingRecycledSprintf	453102	12.008	12.008	
exactpenaltyViaSmoothinglse>savestats	23478	11.677	0.724	
ipqpdense	9823	11.533	0.813	
...ixedrank_equality_nonneg_lowrankcompletion>@(U)constraintgrad	11221003	11.394	11.394	
fixedrankembeddedfactory>tangent2ambient	532448	9.207	9.207	
exactpenaltyViaSmoothinglqh>maxabsLagrangemultipliers	29423	8.594	2.848	
mergeOptions	244973	7.885	7.885	
exactpenaltyViaSmoothinglqh>complementaryPowerViolation	29425	6.600	2.150	
exactpenaltyViaSmoothinglse>maxabsLagrangemultipliers	23478	6.573	2.269	
...drank_equality_nonneg_lowrankcompletion>euclidean_objhessian	196460	6.248	2.480	
rlbfgs>savestats	191578	5.950	5.141	
fixedrankembeddedfactory>randomvec	196460	5.506	4.355	
...drank_equality_nonneg_lowrankcompletion>@(X,U)constrainthess	6286720	5.481	5.481	
...factory>@(i)sprintf('Manifold of %dx%d matrices of rank %d',m,n,k)	316072	5.175	5.175	
exactpenaltyViaSmoothinglse>complementaryPowerViolation	23479	5.103	1.705	
StoreDB>StoreDB.purge	138193	5.030	3.677	
handle_light>handle_light.handle_light	2440595	4.699	4.699	
createExitMsg	9823	4.626	1.798	
rlbfgs>getDirection	138193	3.975	1.813	
..@(x,d)sqrt(norm(d.M,'fro')^2+norm(d.Up,'fro')^2+norm(d.Vp,'fro')^2)	1317289	3.795	3.795	
optimlib/private/interiorPointQPMex (MEX-file)	9823	3.206	3.206	
stoppingcriterion	191578	2.978	2.978	
SQP>const_evaluation	9824	2.681	0.909	
...onstraint_fixedrank_equality_nonneg_lowrankcompletion>eobjgrad	440306	2.273	2.273	
createExitMsg>msgArgs2Str	19646	2.127	0.141	
SQP>complementaryPowerViolation	9824	2.083	0.697	
almbddmultiplier>@(X)grad_alm(X,problem0,rho,lambdas,gammas)	1958	2.032	0.045	
presolve	9823	1.739	0.872	
almbddmultiplier>grad_alm	1958	1.716	0.651	
exactpenaltyViaSmoothinglqh>manifoldPowerViolation	29425	1.414	0.338	
optimget	157168	1.210	0.450	
int2str	92981	1.172	1.172	

exactpenaltyViaSmoothinglse>manifoldPowerViolation	23479	1.085	0.270	
canGetEuclideanGradient	440390	0.968	0.968	
prepareOptionsForSolver	9823	0.879	0.879	
applyStatsfun	201402	0.866	0.866	
almbddmultiplier>KKT_residual	489	0.850	0.075	
optimget>optimgetfast	157168	0.760	0.760	
fixedrankembeddedfactory>tangent	196460	0.724	0.724	
rank	63227	0.723	0.723	
createExitMsg>stripHTMLTags	29469	0.702	0.702	
num2str>cellPrintf	49115	0.669	0.669	
canGetLinesearch	138193	0.471	0.471	
num2str>strvcat	49115	0.471	0.185	
SQP>manifoldPowerViolation	9824	0.457	0.117	
SQP>savestats	9824	0.439	0.382	
schur	9823	0.352	0.352	
presolve>forcingRedundantConstr	9823	0.311	0.311	
postsolve	9823	0.287	0.287	
strjust	49115	0.286	0.111	
getGlobalDefaults	53390	0.285	0.285	
presolve>emptyRows	9823	0.271	0.271	
canGetCost	53385	0.269	0.269	
almbddmultiplier>savestats	488	0.263	0.021	
strjust>strjustOnChar	49115	0.174	0.174	
checkbounds	9823	0.173	0.173	
rlbfgs>@(t)t	138193	0.150	0.150	
computeKKTErrorForQPLP	9823	0.148	0.148	
optimlib/private/classifyBoundsOnVars	9823	0.134	0.107	
...edfactory>@(X)struct('M',zeros(k,k),'Up',zeros(m,k),'Vp',zeros(n,k))	9823	0.132	0.132	
almbddmultiplier>@(x)complementaryPowerViolation(x,rho,lambdas)	489	0.121	0.005	
almbddmultiplier>complementaryPowerViolation	489	0.116	0.039	
canGetGradient	53385	0.110	0.110	
isoptimargdbl	9823	0.109	0.109	
ipqpdense>i_unwrapInternalOptions	9823	0.062	0.062	
SQP>musposiPowerViolation	9824	0.045	0.045	
canGetHessian	9823	0.033	0.033	
optimlib/private/classifyBoundsOnVars>equalFloat	9823	0.027	0.027	
almbddmultiplier>manifoldPowerViolation	489	0.025	0.008	
presolve>freeLinearColumnSingletons	9823	0.025	0.025	
presolve>infiniteRHS	9823	0.023	0.023	
fixedrankembeddedfactory>@()(m+n-k)*k	19646	0.022	0.022	
presolve>fixVarsEqBnds	9823	0.022	0.022	
dlmwrite	1	0.020	0.001	
dlmwrite>parseinput	1	0.019	0.004	
presolve>unconstrVars	9823	0.018	0.018	
presolve>singletonIneqs	9823	0.016	0.016	
functionNameClashCheck	9823	0.016	0.016	
cell.ismember	1	0.015	0.009	
presolve>singletonEqs	9823	0.014	0.014	
presolve>dbltnEqualities	9823	0.014	0.014	

optimset	1	0.008	0.007	
fixedrankembeddedfactory>random	6	0.007	0.002	
close	1	0.006	0.001	
RandStream.RandStream>getMethodNames	1	0.005	0.005	
close>safegetchildren	1	0.005	0.002	
constraintsdetail	6	0.005	0.005	
stiefelfactory>@()qr_unique(randn(n,p,k,array_type))	12	0.005	0.002	
fixedrankembeddedfactory	1	0.005	0.003	
almbddmultiplier>maxabsLagrangemultipliers	488	0.005	0.005	
cell.unique	2	0.004	0.002	
allchild	1	0.004	0.003	
qr_unique	12	0.003	0.003	
nthroot	7	0.003	0.003	
ismember	1	0.002	0.000	
stiefelfactory	2	0.001	0.001	
cell.unique>celluniqueR2012a	2	0.001	0.001	
ismember>ismemberR2012a	1	0.001	0.000	
...straint_fixedrank_equality_nonneg_lowrankcompletion>check_rank	4	0.001	0.001	
RandStream.RandStream>RandStream.RandStream	1	0.001	0.001	
optimfun/private/uselargeoptimstruct	1	0.001	0.001	
ismember>ismemberBuiltinTypes	1	0.001	0.001	
randsample	1	0.001	0.001	
...raint_fixedrank_equality_nonneg_lowrankcompletion>egradzerofun	84	0.001	0.001	
...constraint_fixedrank_equality_nonneg_lowrankcompletion>zerofun	210	0.000	0.000	
mpower	6	0.000	0.000	
allchild>getchildren	1	0.000	0.000	
partialMatchString	2	0.000	0.000	
optimset>checkfield	1	0.000	0.000	
close>getEmptyHandleList	1	0.000	0.000	
RandStream.RandStream>RandStream.delete	1	0.000	0.000	
RandStream.RandStream>getargs	1	0.000	0.000	
RandStream.randperm	1	0.000	0.000	
RandStream.RandStream>RandStream.algName	1	0.000	0.000	
allchild>@()set(rootobj,'ShowHiddenHandles',Temp)	1	0.000	0.000	
cellstr	1	0.000	0.000	
dlmwrite>setdlm	1	0.000	0.000	
uitools/private/allchildRootHelper	1	0.000	0.000	
optimset>displayType	1	0.000	0.000	
close>checkfigs	1	0.000	0.000	
close>request_close	1	0.000	0.000	
optimfun/private/optimoptiongetfields	1	0.000	0.000	
optimset>onDeprecationPathOptionCheck	1	0.000	0.000	
webwindowmanager>webwindowmanager.delete	1	0.000	0.000	

*Self time is the time spent in a function excluding any time spent in child functions. The time includes any overhead time resulting from the profiling process.