Profile Summary (Total time: 24774.141 s)

Generated 09-Feb-2021 11:42:36 using performance time.

Function Name	Calls	Total Time (s)	Self Time* (s)	Total Time Plot (dark band = self time)
Boss_6_RC_nnlc_accuracy	1	24774.140	0.087	
clientconstraint_rank_constraints_nnlc_with_SQP	40	24773.958	0.302	
rlbfgs	234034	16260.655	292.586	
linesearch_hint	1328062	9512.870	169.964	
getCost	21319753	8480.213	1511.404	
SQP	40	7228.702	227.870	
almbddmultiplier	40	7162.906	10.995	
exactpenaltyViaSmoothinglse	40	5561.505	27.149	
hessianmatrix	44959	5280.139	52.228	
getHessian	2565644	4878.263	115.529	
exactpenaltyViaSmoothinglqh	80	4710.960	41.186	
SQP>@(X,d)hessLagrangian(X,d,mus,lambdas)	1282822	4494.078	6.194	
SQP>hessLagrangian	1282822	4487.885	923.767	
getCostGrad	1562096	4149.451	26.534	
getGradient	3092159	4020.137	207.981	
fixedrankembeddedfactory>projection	166781053	3906.106	3114.229	
…straint_rank_constraints_nnlc_with_SQP>@(Y)nncostfun(Y,row,col)	543427357	3322.829	1450.084	
almbddmultiplier>@(X)cost_alm(X,problem0,rho,lambdas,gammas)	5569673	3250.954	163.147	
almbddmultiplier>cost_alm	5569673	3087.807	901.601	
fixedrankembeddedfactory>ehess2rhess	69558934	2961.540	1107.576	
…tpenaltyViaSmoothinglse>@(X)grad_exactpenalty(X,problem0,rho)	626850	2440.367	18.302	
exactpenaltyViaSmoothinglse>grad_exactpenalty	626850	2396.813	869.358	
…straint_rank_constraints_nnlc_with_SQP>@(Y)eqcostfun(Y,row,col)	243928927	2194.907	699.928	
clientconstraint_rank_constraints_nnlc_with_SQP>nncostfun	543427357	1872.745	1872.745	
fixedrankembeddedfactory>project_tangent	36244442	1569.468	135.566	
clientconstraint_rank_constraints_nnlc_with_SQP>eqcostfun	243928927	1494.980	1494.980	
…ctpenaltyViaSmoothinglqh>@(X)cost_exactpenalty(X,problem0,rho)	2556385	1435.347	70.805	
exactpenaltyViaSmoothinglqh>cost_exactpenalty	2556385	1364.543	409.796	
fixedrankembeddedfactory>lincomb	189500818	1305.186	1305.186	
…tpenaltyViaSmoothinglqh>@(X)grad_exactpenalty(X,problem0,rho)	650391	1135.152	19.530	
exactpenaltyViaSmoothinglqh>grad_exactpenalty	650391	1078.793	371.641	
SQP>@(x)loneMeritFunction(x,rho)	1290502	1002.344	5.578	
SQP>loneMeritFunction	1290502	996.766	214.013	
…ctpenaltyViaSmoothinglse>@(X)cost_exactpenalty(X,problem0,rho)	1748891	931.367	46.195	
exactpenaltyViaSmoothinglse>cost_exactpenalty	1748891	885.173	266.953	
StoreDB>StoreDB.getNewKey	24387891	695.381	695.381	
fixedrankembeddedfactory>retraction	10886458	612.775	612.775	
fixedrankembeddedfactory>apply_ambient	236339987	600.522	600.522	
fixedrankembeddedfactory>tangent2ambient	37527264	558.127	558.127	
StoreDB>StoreDB.getWithShared	30971578	538.177	134.401	
fixedrankembeddedfactory>apply_ambient_transpose	236339987	466.531	466.531	
rlbfgs>getDirection	1328062	454.792	153.276	
StoreDB>StoreDB.setWithShared	27669125	449.010	188.720	
almbddmultiplier>@(X)grad_alm(X,problem0,rho,lambdas,gammas)	328159	439.290	9.884	

Function	Calls	Total Time	Self Time	
StoreDB>StoreDB.remove	8312853	418.859	91.383	
almbddmultiplier>grad_alm	328159	418.407	140.736	I
StoreDB>StoreDB.get	30971578	403.776	403.776	I
exactpenaltyViaSmoothinglse>KKT_residual	87256	382.915	15.633	I
rmfield	9024059	366.258	366.258	I
exactpenaltyViaSmoothinglqh>KKT_residual	127814	347.172	25.044	I
…@(x,d1,d2)d1.M(:).'*d2.M(:)+d1.Up(:).'*d2.Up(:)+d1.Vp(:).'*d2.Vp(:)	146532234	320.118	320.118	I
tangentorthobasis	44959	299.763	5.057	I
StoreDB>StoreDB.set	27669125	260.290	260.290	I
orthogonalize	44959	256.734	86.558	I
SQP>gradLagrangian	89998	240.087	89.352	I
getEuclideanGradient	3023179	201.954	73.907	I
handle_light>handle_light.delete	14746976	176.596	176.596	I
SQP>KKT_residual	44999	158.790	6.660	I
evaluation	234354	158.779	34.070	I
..entconstraint_rank_constraints_nnlc_with_SQP>@(U)constraintgrad	127513432	154.371	154.371	I
clientconstraint_rank_constraints_nnlc_with_SQP>objcost	11419241	130.218	130.218	I
StoreDB>StoreDB.purge	1328062	118.831	80.048	
struct2csv	240	109.324	31.852	
quadprog	44959	102.466	5.471	
exactpenaltyViaSmoothinglqh>savestats	127734	93.208	4.201	
ipqpdense	44959	88.803	4.039	
num2str	2683878	87.200	19.763	
StoreDB>StoreDB.StoreDB	14746976	73.451	44.883	
…onstraint_rank_constraints_nnlc_with_SQP>@(X,U)constrainthess	68276112	66.653	66.653	
exactpenaltyViaSmoothinglqh>maxabsLagrangemultipliers	127734	65.903	20.059	
mergeOptions	1796530	64.469	64.469	
exactpenaltyViaSmoothinglse>savestats	87216	59.500	2.880	
num2str>handleNumericPrecision	1886089	54.736	4.178	
num2str>convertUsingRecycledSprintf	1886089	50.559	50.559	
rlbfgs>savestats	1562096	50.497	42.806	
almbddmultiplier>KKT_residual	19284	48.883	3.802	
optimlib/private/interiorPointQPmex (MEX-file)	44959	47.010	47.010	
…constraint_rank_constraints_nnlc_with_SQP>euclidean_objhessian	1282822	45.195	19.431	
exactpenaltyViaSmoothinglqh>complementaryPowerViolation	127814	43.015	13.765	
exactpenaltyViaSmoothinglse>maxabsLagrangemultipliers	87216	40.346	12.079	
fixedrankembeddedfactory>randomvec	1282822	37.929	29.520	
…@(x,d)sqrt(norm(d.M,'fro')^2+norm(d.Up,'fro')^2+norm(d.Vp,'fro')^2)	10620368	31.474	31.474	
clientconstraint_rank_constraints_nnlc_with_SQP>eobjgrad	3008125	30.382	30.382	
handle_light>handle_light.handle_light	14746976	28.568	28.568	
exactpenaltyViaSmoothinglse>complementaryPowerViolation	87256	28.280	8.922	
stoppingcriterion	1562096	23.942	23.942	
createExitMsg	44959	23.300	9.182	
…factory>@()sprintf('Manifold of %dx%d matrices of rank %d',m,n,k)	1396245	22.656	22.656	
SQP>const_evaluation	44999	20.453	5.943	
SQP>complementaryPowerViolation	44999	14.408	4.384	
almbddmultiplier>savestats	19244	13.731	0.737	
createExitMsg>msgArgs2Str	89730	10.423	0.695	
presolve	44959	8.848	4.364	
applyStatsfun	1607095	7.969	7.969	

schur	44959	7.889	7.889	
int2str	573899	7.157	7.157	
canGetEuclideanGradient	3023179	7.093	7.093	
almbddmultiplier>@(x)complementaryPowerViolation(x,rho,lambdas)	19284	6.928	0.136	
almbddmultiplier>complementaryPowerViolation	19284	6.792	2.131	
exactpenaltyViaSmoothinglqh>manifoldPowerViolation	127814	5.943	1.481	
optimget	719344	5.710	2.100	
fixedrankembeddedfactory>tangent	1282822	5.582	5.582	
canGetLinesearch	1328062	4.436	4.436	
prepareOptionsForSolver	44959	4.106	4.106	
exactpenaltyViaSmoothinglse>manifoldPowerViolation	87256	4.054	1.009	
createExitMsg>stripHTMLTags	134689	3.696	3.696	
optimget>optimgetfast	719344	3.610	3.610	
rank	279713	3.608	3.608	
num2str>cellPrintf	223852	3.234	3.234	
num2str>strvrcat	223852	2.310	0.873	
SQP>savestats	44999	2.187	1.909	
SQP>manifoldPowerViolation	44999	2.120	0.540	
presolve>forcingRedundantConstr	44959	1.685	1.685	
postsolve	44959	1.523	1.523	
rlbfgs>@(t)t	1328062	1.478	1.478	
strjust	223852	1.437	0.562	
presolve>emptyRows	44959	1.309	1.309	
getGlobalDefaults	234234	1.295	1.295	
canGetCost	234034	1.147	1.147	
almbddmultiplier>manifoldPowerViolation	19284	0.894	0.233	
strjust>strjustOnChar	223852	0.875	0.875	
computeKKTErrorForQPLP	44959	0.851	0.851	
checkbounds	44959	0.822	0.822	
…edfactory>@(X)struct('M',zeros(k,k),'Up',zeros(m,k),'Vp',zeros(n,k))	44959	0.674	0.674	
optimlib/private/classifyBoundsOnVars	44959	0.653	0.512	
isoptimargdbl	44959	0.531	0.531	
canGetGradient	234034	0.486	0.486	
ipqpdense>i_unwrapInternalOptions	44959	0.286	0.286	
SQP>musposiPowerViolation	44999	0.241	0.241	
canGetHessian	44959	0.157	0.157	
presolve>infiniteRHS	44959	0.154	0.154	
optimlib/private/classifyBoundsOnVars>equalFloat	44959	0.141	0.141	
almbddmultiplier>maxabsLagrangemultipliers	19244	0.127	0.127	
presolve>freeLinearColumnSingletons	44959	0.126	0.126	
fixedrankembeddedfactory>@()(m+n-k)*k	89918	0.110	0.110	
presolve>fixVarsEqBnds	44959	0.110	0.110	
presolve>singletonEqs	44959	0.097	0.097	
presolve>unconstrVars	44959	0.093	0.093	
dlmwrite	40	0.085	0.026	
presolve>singletonIneqs	44959	0.081	0.081	
functionNameClashCheck	44959	0.073	0.073	
presolve>dbltnEqualities	44959	0.071	0.071	
fixedrankembeddedfactory>random	240	0.068	0.019	

clientconstraint_rank_constraints_nnlc_with_SQP>egradzerofun	15054	0.062	0.062	
dlmwrite>parseinput	40	0.060	0.010	
stiefelfactory>@()qr_unique(randn(n,p,k,array_type))	480	0.050	0.013	
cell.ismember	40	0.048	0.018	
qr_unique	480	0.037	0.037	
fixedrankembeddedfactory	40	0.033	0.016	
clientconstraint_rank_constraints_nnlc_with_SQP>zerofun	25603	0.032	0.032	
optimset	40	0.028	0.022	
cell.unique	80	0.023	0.011	
constraintsdetail	240	0.019	0.019	
stiefelfactory	80	0.017	0.017	
clientconstraint_rank_constraints_nnlc_with_SQP>check_rank	160	0.015	0.011	
randsample	40	0.010	0.007	
cell.unique>celluniqueR2012a	80	0.010	0.010	
RandStream.RandStream>RandStream.RandStream	40	0.010	0.007	
nthroot	280	0.008	0.008	
close	1	0.007	0.001	
ismember	40	0.007	0.001	
close>safegetchildren	1	0.006	0.003	
ismember>ismemberR2012a	40	0.006	0.002	
RandStream.RandStream>getMethodNames	1	0.005	0.005	
ismember>ismemberBuiltinTypes	40	0.004	0.004	
allchild	1	0.003	0.003	
RandStream.RandStream>RandStream.delete	41	0.003	0.003	
partialMatchString	80	0.003	0.003	
RandStream.randperm	40	0.003	0.003	
optimset>checkfield	40	0.003	0.002	
optimfun/private/uselargeoptimstruct	40	0.002	0.002	
RandStream.RandStream>getargs	40	0.001	0.001	
RandStream.RandStream>RandStream.algName	40	0.001	0.001	
dlmwrite>setdlm	40	0.001	0.001	
optimset>displayType	40	0.001	0.001	
cellstr	40	0.001	0.001	
getSettingsRoot	4	0.001	0.001	
optimset>onDeprecationPathOptionCheck	40	0.000	0.000	
mpower	6	0.000	0.000	
optimfun/private/optimoptiongetfields	40	0.000	0.000	
close>getEmptyHandleList	1	0.000	0.000	
allchild>@()set(rootobj,'ShowHiddenHandles',Temp)	1	0.000	0.000	
allchild>getchildren	1	0.000	0.000	
uitools/private/allchildRootHelper	1	0.000	0.000	
close>checkfigs	1	0.000	0.000	
close>request_close	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.