

Profile Summary (Total time: 3850.989 s)

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Function Name	Calls	Total Time (s)	Self Time* (s)	Total Time Plot (dark band = self time)
Boss_3_RC_nnlg_robustness	1	3850.988	0.127	
clientconstraint_fixedrank_equality_nonneg_lowrankcompletion	40	3850.737	0.170	
rlbfgs	23194	3627.126	82.471	
almbddmultiplier	40	2294.894	6.514	
linsearch_hint	337174	2201.497	48.284	
getCost	5516064	1790.480	376.121	
almbddmultiplier>@(X)cost_alm(X,problem0.rho,lambdas,gammas)	2372919	919.491	57.687	
almbddmultiplier>cost_alm	2372919	861.804	279.707	
exactpenaltyViaSmoothinglse	40	787.055	1.422	
exactpenaltyViaSmoothinglqh	80	656.178	2.155	
getCostGrad	360368	620.265	6.236	
...nk_equality_nonneg_lowrankcompletion>@(Y)nncostfun(Y,row,col)	96582169	607.317	257.253	
getGradient	577563	602.845	37.232	
fixedrankembeddedfactory>project_tangent	11615392	495.754	45.111	
fixedrankembeddedfactory>projection	20105592	488.286	383.944	
...nstraint_fixedrank_equality_nonneg_lowrankcompletion>nncostfun	96582169	350.063	350.063	
...tpenaltyViaSmoothinglse>@(X)grad_exactpenalty(X,problem0.rho)	100653	309.871	2.725	
exactpenaltyViaSmoothinglse>grad_exactpenalty	100653	305.934	112.537	
...nk_equality_nonneg_lowrankcompletion>@(Y)eqcostfun(Y,row,col)	32997173	215.696	89.711	
StoreDB>StoreDB.getNewKey	5845028	168.445	168.445	
fixedrankembeddedfactory>tangent2ambient	11635228	166.719	166.719	
rlbfgs>getDirection	337174	152.380	52.655	
fixedrankembeddedfactory>retraction	2726617	149.963	149.963	
fixedrankembeddedfactory>lincomb	21583029	143.803	143.803	
StoreDB>StoreDB.remove	2380669	134.994	28.029	
...tpenaltyViaSmoothinglqh>@(X)grad_exactpenalty(X,problem0.rho)	109604	129.095	2.968	
StoreDB>StoreDB.getWithShared	7113619	126.923	32.339	
...nstraint_fixedrank_equality_nonneg_lowrankcompletion>eqcostfun	32997173	125.985	125.985	
exactpenaltyViaSmoothinglqh>grad_exactpenalty	109604	124.212	42.867	
rmfield	2603731	119.114	119.114	
almbddmultiplier>@(X)grad_alm(X,problem0.rho,lambdas,gammas)	95467	116.322	2.588	
almbddmultiplier>grad_alm	95467	106.029	37.611	
StoreDB>StoreDB.setWithShared	6444954	105.951	43.825	
StoreDB>StoreDB.get	7113619	94.584	94.584	
SQP	40	93.882	3.459	
...ctpenaltyViaSmoothinglqh>@(X)cost_exactpenalty(X,problem0.rho)	203660	90.341	5.404	
exactpenaltyViaSmoothinglqh>cost_exactpenalty	203660	84.937	28.486	
...ctpenaltyViaSmoothinglse>@(X)cost_exactpenalty(X,problem0.rho)	164458	72.694	4.360	
hessianmatrix	831	72.663	0.718	
exactpenaltyViaSmoothinglse>cost_exactpenalty	164458	68.333	23.510	
getHessian	39672	67.396	1.891	
fixedrankembeddedfactory>apply_ambient	21011028	62.260	62.260	
StoreDB>StoreDB.set	6444954	62.126	62.126	
SQP>@(X,d)hessLagrangian(X,d,mus,lambdas)	19836	61.352	0.098	

SQP>hessLaorancian	19836	61.254	12.421	"
fixedrankembeddedfactory>apply_ambient_transpose	21011028	46.145	46.145	
fixedrankembeddedfactory>ehess2rhess	905436	40.599	14.827	
handle_light>handle_light.delete	3127185	37.455	37.455	
StoreDB>StoreDB.purge	337174	37.295	25.146	
...@(x,d1,d2)d1.M(:).*d2.M(:)+d1.Up(:).*d2.Up(:)+d1.Vp(:).*d2.Vp(:)	13224356	33.911	33.911	
almbddmultiplier>KKT_residual	12984	28.391	2.147	
getEuclideanGradient	328133	20.294	8.272	
...tconstraint_fixedrank_equality_nonneg_lowrankcompletion>objcost	2762600	19.068	19.068	
struct2csv	240	18.372	10.864	
exactpenaltyViaSmoothinglse>KKT_residual	4137	16.807	0.740	
StoreDB>StoreDB.StoreDB	3127185	16.280	9.987	
mergeOptions	383962	14.733	14.733	
exactpenaltyViaSmoothinglqh>KKT_residual	6393	14.680	1.143	
evaluation	23514	13.875	2.980	
rlbfgs>savestats	360368	12.277	10.391	
...ixedrank_equality_nonneg_lowrankcompletion>@(U)constraintgrad	8162067	8.518	8.518	
almbddmultiplier>savestats	12944	8.050	0.524	
num2str	232687	7.719	1.617	
...@(x,d)sqrt(norm(d.M,'fro')^2+norm(d.Up,'fro')^2+norm(d.Vp,'fro')^2)	1980227	7.008	7.008	
handle_light>handle_light.handle_light	3127185	6.293	6.293	
SQP>@(x)loneMeritFunction(x,rho)	9605	5.786	0.053	
SQP>loneMeritFunction	9605	5.733	1.217	
stoppingcriterion	360368	5.667	5.667	
num2str>handleNumericPrecision	173909	5.278	0.401	
num2str>convertUsingRecycledSprintf	173909	4.877	4.877	
SQP>gradLagrangian	1742	4.631	1.673	
exactpenaltyViaSmoothinglqh>savestats	6313	4.035	0.234	
almbddmultiplier>@(x)complementaryPowerViolation(x,rho,lambdas)	12984	4.026	0.107	
almbddmultiplier>complementaryPowerViolation	12984	3.919	1.171	
tangentorthobasis	831	3.907	0.089	
orthogonalize	831	3.187	1.111	
SQP>KKT_residual	871	3.056	0.144	
exactpenaltyViaSmoothinglqh>maxabsLagrangemultipliers	6313	2.642	0.888	
exactpenaltyViaSmoothinglse>savestats	4097	2.580	0.152	
...factory>@()sprintf('Manifold of %dx%d matrices of rank %d',m,n,k)	121405	2.121	2.121	
exactpenaltyViaSmoothinglqh>complementaryPowerViolation	6393	2.060	0.657	
applyStatsfun	361239	1.893	1.893	
...onstraint_fixedrank_equality_nonneg_lowrankcompletion>eobjgrad	323305	1.839	1.839	
quadprog	831	1.679	0.151	
exactpenaltyViaSmoothinglse>maxabsLagrangemultipliers	4097	1.666	0.574	
ipqpdense	831	1.339	0.131	
exactpenaltyViaSmoothinglse>complementaryPowerViolation	4137	1.271	0.418	
canGetLinesearch	337174	1.169	1.169	
...drank_equality_nonneg_lowrankcompletion>@(X,U)constrainthess	885600	0.908	0.908	
canGetEuclideanGradient	328133	0.766	0.766	
int2str	54623	0.704	0.704	
...drank_equality_nonneg_lowrankcompletion>euclidean_objhessian	19836	0.700	0.279	
almbddmultiplier>manifoldPowerViolation	12984	0.669	0.170	
fixedrankembeddedfactory>randomvec	19836	0.630	0.493	

createExitMsg	831	0.489	0.185	
rlbfgs>@(t)t	337174	0.416	0.416	
optimlib/private/interiorPointQPmex (MEX-file)	831	0.380	0.380	
SQP>const_evaluation	871	0.373	0.119	
rank	24785	0.343	0.343	
exactpenaltyViaSmoothinglqh>manifoldPowerViolation	6393	0.331	0.086	
SQP>complementaryPowerViolation	871	0.295	0.093	
createExitMsg>msgArgs2Str	1662	0.229	0.017	
presolve	831	0.212	0.104	
exactpenaltyViaSmoothinglse>manifoldPowerViolation	4137	0.211	0.056	
getGlobalDefaults	23394	0.144	0.144	
schur	831	0.138	0.138	
optimget	13296	0.123	0.047	
canGetCost	23194	0.121	0.121	
fixedrankembeddedfactory>tangent	19836	0.089	0.089	
prepareOptionsForSolver	831	0.087	0.087	
dlmwrite	40	0.085	0.026	
optimget>optimgetfast	13296	0.077	0.077	
createExitMsg>stripHTMLTags	2493	0.075	0.075	
almbddmultiplier>maxabsLagrangemultipliers	12944	0.073	0.073	
num2str>cellPrintf	4155	0.065	0.065	
fixedrankembeddedfactory>random	240	0.065	0.024	
dlmwrite>parseinput	40	0.058	0.010	
num2str>strvcat	4155	0.055	0.022	
SQP>savestats	871	0.054	0.047	
canGetGradient	23194	0.054	0.054	
SQP>manifoldPowerViolation	871	0.049	0.014	
cell.ismember	40	0.047	0.018	
stiefelfactory>@(lqr_unique(randn(n,p,k,array_type)))	480	0.041	0.010	
presolve>forcingRedundantConstr	831	0.039	0.039	
fixedrankembeddedfactory	40	0.036	0.017	
postsolve	831	0.036	0.036	
optimset	40	0.035	0.028	
strjust	4155	0.033	0.013	
presolve>emptyRows	831	0.033	0.033	
qr_unique	480	0.032	0.032	
cell.unique	80	0.024	0.011	
...raint_fixedrank_equality_nonneg_lowrankcompletion>egradzerofun	4828	0.023	0.023	
checkbounds	831	0.022	0.022	
computeKKTErrorsForQPLP	831	0.022	0.022	
constraintsdetail	240	0.020	0.020	
strjust>strjustOnChar	4155	0.020	0.020	
stiefelfactory	80	0.019	0.019	
optimlib/private/classifyBoundsOnVars	831	0.019	0.015	
...constraint_fixedrank_equality_nonneg_lowrankcompletion>zerofun	12467	0.018	0.018	
isoptimargdbl	831	0.015	0.015	
...straint_fixedrank_equality_nonneg_lowrankcompletion>check_rank	160	0.015	0.011	
...edfactory>@(X)struct('M',zeros(k,k),'Up',zeros(m,k),'Vp',zeros(n,k))	831	0.014	0.014	
RandStream.RandStream>RandStream.RandStream	40	0.011	0.008	

RandStream.RandStream>getMethodNames	1	0.010	0.010	
cell.unique>celluniqueR2012a	80	0.010	0.010	
close	1	0.009	0.001	
SQP>musposiPowerViolation	871	0.008	0.008	
nthroot	280	0.008	0.008	
close>safegetchildren	1	0.008	0.003	
ipqpdense>i_unwrapInternalOptions	831	0.007	0.007	
randsample	40	0.007	0.005	
ismember	40	0.005	0.001	
allchild	1	0.005	0.004	
optimlib/private/classifyBoundsOnVars>equalFloat	831	0.004	0.004	
ismember>ismemberR2012a	40	0.004	0.002	
canGetHessian	831	0.004	0.004	
presolve>freeLinearColumnSingletons	831	0.004	0.004	
presolve>unconstrVars	831	0.004	0.004	
optimset>checkfield	40	0.003	0.002	
presolve>infiniteRHS	831	0.003	0.003	
fixedrankembeddedfactory>@()(m+n-k)*k	1662	0.003	0.003	
presolve>fixVarsEqBnds	831	0.003	0.003	
functionNameClashCheck	831	0.003	0.003	
partialMatchString	80	0.002	0.002	
presolve>singletonIneqs	831	0.002	0.002	
ismember>ismemberBuiltinTypes	40	0.002	0.002	
presolve>singletonEqs	831	0.002	0.002	
presolve>dbltnEqualities	831	0.002	0.002	
optimfun/private/uselargeoptimstruct	40	0.002	0.002	
RandStream.RandStream>RandStream.algName	40	0.002	0.002	
RandStream.RandStream>RandStream.delete	40	0.002	0.002	
RandStream.RandStream>getargs	40	0.001	0.001	
RandStream.randperm	40	0.001	0.001	
optimset>displayType	40	0.001	0.001	
dlmwrite>setdlm	40	0.001	0.001	
cellstr	40	0.001	0.001	
getSettingsRoot	10	0.001	0.001	
allchild>getchildren	1	0.001	0.001	
mpower	6	0.001	0.001	
optimset>onDeprecationPathOptionCheck	40	0.001	0.001	
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	
uitools/private/allchildRootHelper	1	0.000	0.000	
close>checkfigs	1	0.000	0.000	
close>request_close	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.