$\textbf{Table 1:} \ \textit{Here is a caption}.$ 

	Dataset	Optimized	paramete	rs of EE			Classification algorithms					
Section   Part   Section		Approach	Fuser	Grain	Focus	af.	EE	DT	knn	SVC	NB	MLP
cold plase -0 1 - f-v-v-2         bette         equal         32         10         1         0.979         0.988         0.979         0.940         1.917         2.77         plase 0 1 f-v-v-5         purified         detal         8         4.0         1         0.987         0.957         0.951         0.951         0.978         0.952         0.921         0.921         0.978         0.985         0.985         0.985         0.987         0.952         0.921         0.977         0.952         0.921         0.977         0.952         0.921         0.977         0.978         0.987         0.985         0.987         0.985         0.987         0.985         0.987         0.985         0.987         0.985         0.987         0.985         0.987         0.985         0.987         0.985         0.987         0.985         0.987         0.985         0.987         0.985         0.987         0.995         0.997         0.992         0.992         0.992         0.994         0.997         0.993         0.992         0.992         0.994         0.997         0.997         0.992         0.992         0.992         0.994         0.994         0.994         0.994         0.994         0.994         0.994         0.994 </td <td></td> <td></td> <td></td> <td>— imb-IRh</td> <td>igherThan</td> <td>9p1 —</td> <td><u> </u></td> <td></td> <td></td> <td></td> <td></td> <td></td>				— imb-IRh	igherThan	9p1 —	<u> </u>					
glasse   1 - 1			-									0.982
glass-9												0.940 $0.906$
glasse  glasse  purified   theta   8			-									0.951
place   page   place   pl		-	-									0.921
page-blocks-1-3-w-4												0.939
shottle-c-0-we-c4         brute         equal         8         1.0         1         1,000         1,000         0.99         0.40         0.997         0.939         0.99         www.ed         0.995         0.917         0.939         0.99         0.90         0.907         0.939         0.99         0.90         0.907         0.939         0.99         0.90         0.907         0.939         0.99         0.90         0.907         0.939         0.90         0.90         0.907         0.939         0.90         0.90         0.907         0.939         0.90         0.90         0.907         0.939         0.90         0.90         0.907         0.939         0.90         0.90         0.907         0.939         0.90         0.90         0.907         0.93         0.93         0.905         0.905         0.905         0.908 <t< td=""><td>-</td><td>•</td><td>-</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>0.958</td></t<>	-	•	-									0.958
shuttle-c2-sa-c4         brute         cgual         8         1.0         1         1.00         0.00         0.96         0.95         0.97         0.93         0.95         0.97         0.93         0.95         0.97         0.93         0.95         0.97         0.93         0.95         0.97         0.93         0.13         0.98         0.96         0.917         0.93         0.13         0.17         0.98         0.917         0.93         0.13         0.17         0.98         0.917         0.93         0.13         0.17         0.93         0.13         0.17         0.93         0.13         0.17         0.93         0.14         0.93         0.93         0.13         0.17         0.93         0.93         0.13         0.03         0.93												0.799 $0.998$
yeart-0-5-6-7-9-w-4   purified   equal   8   4.0   1   0.888   0.869   0.917   0.903   0.134   0.177   0.908   0.9041-1-2-8-9-w-7   brute   equal   8   4.0   4   0.957   0.915   0.955   0.957   0.133   0.909   0	•											0.961
		•										0.997
		•	-									0.905
yeast-1-w-7												0.968 $0.957$
yeast-2-w-8			-									0.935
yasat5			-									0.909
yeast6	•											0.977
Part												0.966
Cook-0-1-1-4-6-ns-5	~		-									0.974 $0.976$
cocli-0-1-4-6-w-5	<u>geasio</u>	- Drute	equai				0.991	0.900	0.960	0.910	0.510	
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$												
												0.932 $0.929$
	•	•	-									0.929
cooli-0-1-vs-5	•											0.955
$ \begin{array}{c cccc} coolbi-Q-2-G-7-w-s-5 & purified & theta & 8 & 4.0 & 1 & 0.942 & 0.938 & 0.956 & 0.902 & 0.838 & 0.802 \\ coolbi-Q-3-4-rus-5-G & brute & theta & 8 & 4.0 & 3 & 0.934 & 0.934 & 0.969 & 0.903 & 0.755 & 0.52 \\ coolbi-Q-3-4-rus-5-G & brute & equal & 8 & 2.0 & 1 & 0.970 & 0.945 & 0.975 & 0.900 & 0.755 & 0.52 \\ coolbi-Q-3-4-w-5-5 & random & theta & 16 & 4.0 & 1 & 0.975 & 0.936 & 0.980 & 0.901 & 0.857 & 0.955 \\ coolbi-Q-3-6-w-5-5 & brute & theta & 8 & 4.0 & 1 & 0.975 & 0.936 & 0.980 & 0.901 & 0.887 & 0.935 \\ glass-C-1-x-0-w-5-5 & brute & theta & 8 & 4.0 & 1 & 0.945 & 0.955 & 0.964 & 0.991 & 0.883 & 0.898 \\ glass-C-1-x-0-w-5-5 & random & theta & 8 & 4.0 & 1 & 0.945 & 0.955 & 0.964 & 0.991 & 0.883 & 0.898 \\ glass-C-1-x-0-w-5-2 & random & equal & 8 & 2.0 & 1 & 0.795 & 0.883 & 0.898 & 0.991 & 0.434 & 0.99 \\ glass-C-1-x-0-w-5 & purified & equal & 3.2 & 4.0 & 3 & 0.955 & 0.980 & 0.991 & 0.452 & 0.39 \\ glass-C-1-x-0-w-5-5 & purified & equal & 8 & 1.0 & 1 & 0.875 & 0.985 & 0.991 & 0.452 & 0.39 \\ glass-C-1-x-0-x-2-5 & purified & equal & 8 & 1.0 & 1 & 0.876 & 0.966 & 0.932 & 0.985 & 0.981 & 0.94 \\ glass-C-1-x-0-x-2-5-y-w-3-G-8 & purified & equal & 8 & 4.0 & 1 & 0.944 & 0.945 & 0.937 & 0.902 & 0.985 & 0.981 & 0.94 \\ grast-D-2-x-1-y-w-3-G-8 & purified & equal & 8 & 4.0 & 1 & 0.948 & 0.945 & 0.995 & 0.901 & 0.246 & 0.99 \\ grast-D-2-x-1-y-w-3-G-8 & purified & equal & 8 & 4.0 & 1 & 0.948 & 0.945 & 0.995 & 0.901 & 0.246 & 0.99 \\ grast-D-2-x-1-x-1 & random & theta & 32 & 3.0 & 1 & 0.982 & 0.988 & 0.986 & 0.964 & 0.945 & 0.93 \\ glass-D-1-x-1 & random & theta & 8 & 2.0 & 1 & 0.992 & 0.893 & 0.996 & 0.964 & 0.945 & 0.93 \\ glass-D-1-x-1 & random & theta & 8 & 2.0 & 1 & 0.992 & 0.893 & 0.998 & 0.967 & 0.445 & 0.94 & 0.945 \\ glass-D & brute & equal & 32 & 1.0 & 1 & 0.982 & 0.898 & 0.966 & 0.771 & 0.36 & 0.771 & 0.36 & 0.771 & 0.36 & 0.771 & 0.37 & 0.776 & 0.771 & 0.37 & 0.972 & 0.985 & 0.985 & 0.985 & 0.985 & 0.985 & 0.985 & 0.985 & 0.985 & 0.985 & 0.985 & 0.985 & 0.985 & 0.985 & 0.985 & 0.985 & 0.985 & 0.985 & 0.985 & 0.985 & 0.9$	ecoli- $0$ - $1$ - $vs$ - $5$	random		16	4.0	4	0.979	0.958	0.983	0.917	0.933	0.908
ecoli-0.3-4.6-us-5         purified         theta         8         4.0         4         0.946         0.937         0.976         0.902         0.771         0.55         cocili-0-3-4-us-5         brute         theta         8         4.0         1         0.970         0.945         0.957         0.903         0.755         0.95         cocil-0-6-x-us-5         random         theta         8         2.0         1         0.975         0.936         0.990         0.950         0.950         0.950         0.901         0.887         0.03         0.000         0.000         0.000         0.000         0.900         0.887         0.00         0.000	•	•	-									0.891
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $		-										0.893
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	•	-										0.932 $0.914$
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $												0.935
ccoli-0-6-7-vs-5		random	-	16	4.0	1	0.975	0.936	0.980	0.901	0.897	0.956
glass-0-1-4-6-us-2												0.883
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$												0.886 $0.917$
$\begin{array}{c c c c c c c c c c c c c c c c c c c $			-									0.901
Triangle   Part   Par	0											0.913
yeast-0-2-5-6-vs-3-7-8-9         brute         equal         8         4.0         3         0.923         0.892         0.937         0.902         0.915         0.9           yeast-0-2-5-7-9-vs-3-6-8         brute         theta         8         4.0         4         0.907         0.864         0.911         0.905         0.202         0.3           - imb-IRlowerThan9           ecoli-0-vs-1         random         theta         32         3.0         1         0.982         0.968         0.986         0.964         0.945         0.98           ecoli2         random         theta         16         3.0         1         0.872         0.887         0.929         0.863         0.653         0.351           ecoli2         random         theta         8         4.0         2         0.992         0.965         0.964         0.945         0.351         0.82           ecoli3         random         theta         8         4.0         1         0.892         0.963         0.964         0.944         0.902         0.66           glass0         brute         equal         32         1.0         1         0.960         0.785         0.771	0											0.917
yeast-0-2-5-7-9-vs-3-6-8         purified brute         equal theta         8         4.0         1         0.948         0.945         0.969         0.901         0.246         0.99         0.902         0.303         0.202         0.33           - imb-IRlower Than9         - image: main of the ta and			-									0.966
Part	•		-									0.904
ecoli-0-vs-1         random         theta         32         3.0         1         0.982         0.968         0.964         0.945         0.92           ecoli1         random         theta         16         3.0         1         0.872         0.887         0.929         0.863         0.653         0.8           ecoli2         random         theta         8         4.0         2         0.902         0.905         0.967         0.845         0.351         0.8           ecoli3         random         theta         8         2.0         1         0.922         0.893         0.928         0.896         0.771         0.0           glass O         brute         equal         32         1.0         1         0.920         0.934         0.916         0.944         0.902         0.63           glass O         brute         equal         32         1.0         1         0.960         0.785         0.762         0.743         0.631         0.58           glass O         brute         equal         32         1.0         1         0.060         0.785         0.762         0.743         0.631         0.58           glass B         brute	0	•	-									0.901
ecoli1         random         theta         16         3.0         1         0.872         0.887         0.929         0.863         0.653         0.8           ecoli2         random         theta         8         4.0         2         0.902         0.905         0.967         0.845         0.351         0.8           ecoli3         random         theta         8         2.0         1         0.922         0.893         0.928         0.896         0.771         0.8           glass 0         brute         equal         32         1.0         1         0.920         0.934         0.916         0.944         0.902         0.63           glass 1         random         theta         32         1.0         1         0.760         0.785         0.762         0.743         0.631         0.5           glass 1         random         theta         32         1.0         1         0.760         0.785         0.762         0.743         0.631         0.5           glass 1         random         theta         32         1.0         1         0.070         0.757         0.786         0.771         0.00           ris 0         brute				— imb-IF	RlowerThai	n9 —						
ecoli1         random         theta         16         3.0         1         0.872         0.887         0.929         0.863         0.653         0.8           ecoli2         random         theta         8         4.0         2         0.902         0.905         0.967         0.845         0.351         0.8           ecoli3         random         theta         8         2.0         1         0.922         0.893         0.928         0.896         0.771         0.8           glass 0         brute         equal         32         1.0         1         0.920         0.934         0.916         0.944         0.902         0.63           glass 1         random         theta         32         1.0         1         0.760         0.785         0.762         0.743         0.631         0.5           glass 1         random         theta         32         1.0         1         0.760         0.785         0.762         0.743         0.631         0.5           glass 1         random         theta         32         1.0         1         0.070         0.757         0.786         0.771         0.063         0.94         0.8           <	ecoli-0-vs-1	random	theta	32	3.0	1	0.982	0.968	0.986	0.964	0.945	0.959
ecoli3         random         theta         8         2.0         1         0.922         0.893         0.928         0.896         0.771         0.8           glass-0-1-2-3-vs-4-5-6         random         theta         8         1.0         1         0.920         0.934         0.916         0.944         0.902         0.6           glass 0         brute         equal         32         1.0         1         0.760         0.757         0.786         0.771         0.603         0.5           glass 6         brute         equal         16         4.0         1         0.930         0.935         0.949         0.963         0.944         0.80           iris 0         brute         equal         8         1.0         1         0.000         1.000 <th< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>0.881</td></th<>												0.881
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$												0.896
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$												0.899
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	,											0.657 $0.589$
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	0											0.575
new-thyroid1         random         theta         16         2.0         1         0.972         0.967         0.953         0.888         0.972         0.7           new-thyroid2         brute         equal         32         4.0         2         0.972         0.958         0.953         0.884         0.977         0.8           pima         random         equal         8         3.0         2         0.768         0.702         0.721         0.651         0.756         0.6           wisconsin         brute         theta         16         3.0         1         0.975         0.937         0.972         0.965         0.965         0.9           yeast3         purified         equal         32         4.0         1         0.705         0.718         0.739         0.720         0.321         0.7           yeast3         purified         equal         8         3.0         4         0.930         0.931         0.947         0.890         0.311         0.5           - imb-multiclass           balance         brute         equal         16         4.0         1         0.637         0.765         0.830         0.901         0.893	glass6	brute	equal		4.0	1	0.930	0.935	0.949	0.963	0.944	0.832
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$			-									1.000
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$												0.753 $0.809$
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	-											0.641
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	-											0.966
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	yeast1	brute	equal			1	0.705	0.718		0.720		0.759
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	yeast3	purified	equal	8	3.0	4	0.930	0.931	0.947	0.890	0.311	0.935
$\begin{array}{cccccccccccccccccccccccccccccccccccc$				— imb-	multiclass							
$\begin{array}{cccccccccccccccccccccccccccccccccccc$			-									0.944
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	-											0.544
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$		-	-									0.795 $0.350$
new-thyroid         brute         equal         32         4.0         2         0.958         0.940         0.930         0.749         0.963         0.5           pageblocks         brute         equal         32         1.0         1         0.885         0.951         0.938         0.901         0.918         0.7           shuttle         brute         equal         32         1.0         1         0.920         0.997         0.992         0.830         0.903         0.9           thyroid         brute         equal         8         3.0         4         0.921         0.985         0.925         0.925         0.174         0.9           wine         brute         equal         16         3.0         2         0.972         0.921         0.691         0.438         0.983         0.3	0											0.636
shuttle         brute         equal         32         1.0         1         0.920         0.997         0.992         0.830         0.903         0.99           thyroid         brute         equal         8         3.0         4         0.921         0.985         0.925         0.925         0.174         0.9           wine         brute         equal         16         3.0         2         0.972         0.921         0.691         0.438         0.983         0.3	new-thyroid											0.553
thyroid brute equal 8 3.0 4 0.921 0.985 0.925 0.925 0.174 0.9 wine brute equal 16 3.0 2 0.972 0.921 0.691 0.438 0.983 0.3												0.722
wine brute equal 16 3.0 2 0.972 0.921 0.691 0.438 0.983 0.3			-									0.993
·	-											0.925 $0.314$
yeası prute equal 8 3.0 1 0.494 0.481 0.559 0.423 0.146 0.5	yeast	brute	equal	8	3.0	1	0.494	0.481	0.559	0.423	0.146	0.574