NeuroDesign: optimalisation report

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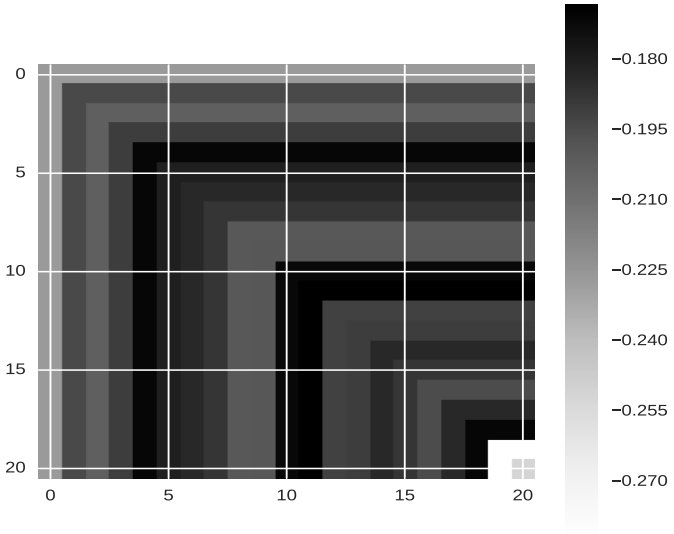
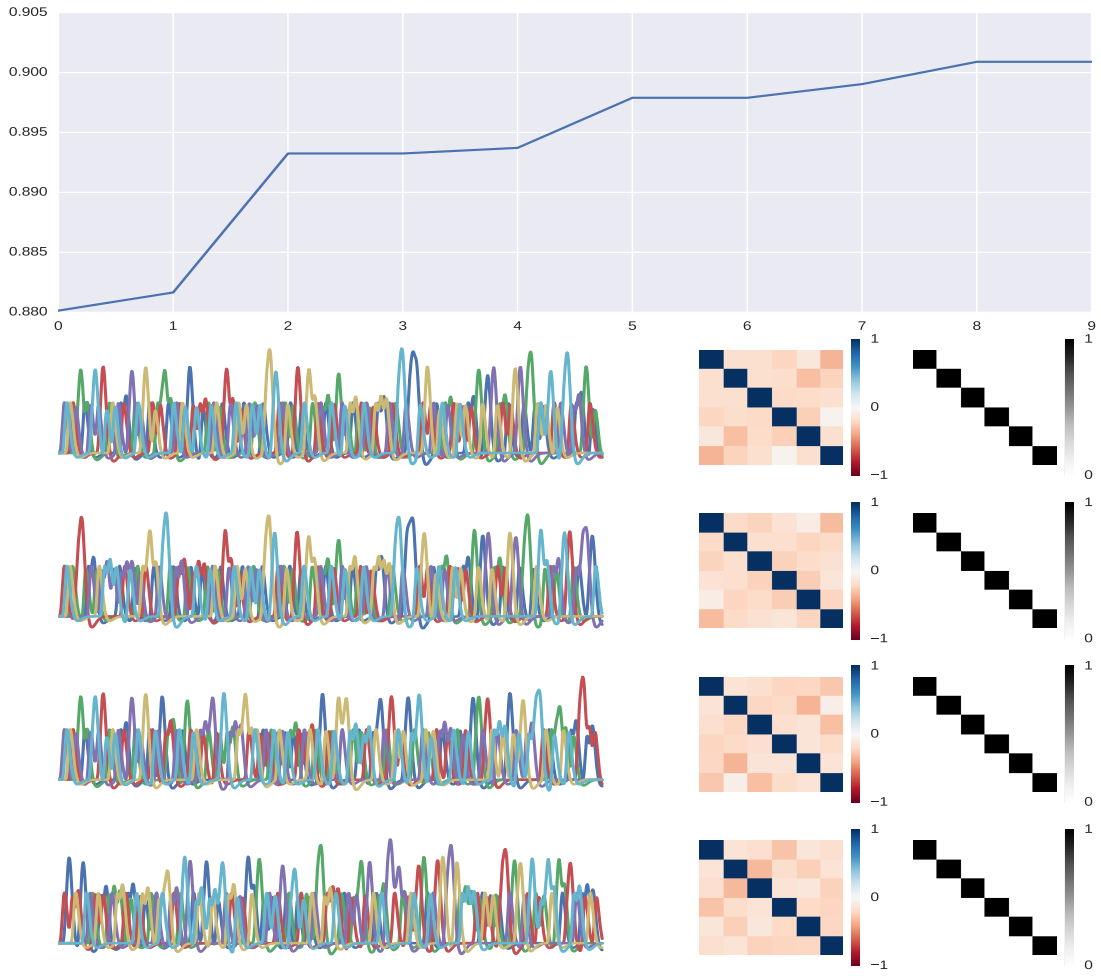
Correlation between designs

During the optimisation, the designs are mixed with each other to find better combinations. As such, the designs can look very similar. Actually, the genetic algorithm uses natural selection as a basis, and as such, the designs can be clustered in families. This is the covariance matrix between the final 20 designs



Selected designs

The following figure shows in the upper panel the optimisation score over the different generations. Below are the expected signals of the best designs from different families, more specific and in relation with the covariance matrix, designs 0, 10, 19, 20. Next to each design is the covariance matrix between the regressors, and the diagonalmatrix with the eigenvalues of the design matrix.



Experimental settings

e (TR):	0.68
ls:	192
ans:	809
ferent stimuli:	6
abilities:	0.166666666667 0.166666666667 0.166666666667 0.166666666667 0.166666666667 0.166666
mulus (s)	2.2
re stimulus (in trial):	0.0
stimulus (in trial)	0.4
al (s):	2.6
ent duration(s):	550
muli between rest blocks	0
st blocks (s):	0.0

0.25	0.25	-0.25	-0.25	0	0
-0.25	-0.25	0	0	0.25	0.25
0.166666666667	-0.166666666667	0.166666666667	-0.166666666667	0.166666666667	-0.1666

exponential
0.0
0.26
10.0

ties:	False
nber of repeated stimuli:	6
design:	0.1
ocorrelation:	0.3

Optimalisation settings

Optimalisation weights (Fe,Fd,Fc,Ff):	0.0 0.1 0.4 0.5
Aoptimality?	True
Number of designs in each generation:	20
Number of immigrants in each generation:	4
Confounding order:	3
Convergence criterion:	10
Number of precycles:	10
Number of cycles:	10
Percentage of mutations:	0.01
Seed:	847749