Towards high performance and efficient brain computer interface character speller : convolutional neural network based methods

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Hongchang Shan

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ALS	Amyotrophic Lateral Sclerosis
AP	Action Potential
AUC	Area Under the Receiver Operating Characteristic
BCI	Brain Computer Interface
CNN	Convolutional Neural Network
CWT	Continuous Wavelet Transform
DWT	Discrete Wavelet Transform
ECoG	Electrocorticography
EEG	Electroencephalography
EoCNN	Ensemble of Convolutional Neural Networks
ERD	Event Related Desynchronization
ERP	Event-Related Potential
FLD	Fisher's Linear Discriminants
ITR	Information Transfer Rate
LDA	Linear Discriminant Analysis
LFP	Local Field Potential
max-ITR	maximum ITR
MSE	Mean Squared Error
NN	Neural Network
OCLNN	One Convolution Layer Neural Network
OSLN	One Spatial Layer Network
OTLN	One Temporal Layer Network
PEoCNN	EoCNN with parameterized ensemble processing
ReLU	Rectified Linear Unit

SAE	Stacked Autoencoder
SGD	Stochastic Gradient Descent
SLES	Spatial Learning based Elimination Selection
SMAC	Sequential Model-based Algorithm Configuration
SNR	Signal to Noise Ratio
SSNR	Signal to Signal and Noise Ratio
SSVEP	Steady State Visual Evoked Potential
SVM	Support Vector Machine
SWLDA	Stepwise Linear Discriminant Analysis
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