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Date: Wed, 13 Nov 1996 10:28:37 -0600
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Hi!

You are really hard to get on a phone!

First,

you may add one more abstract on you CV (the last, 1995 RSNA, in:
Radiology, Vol 197(P), Supplement to Radiology, p. 219, Nov. 1995

ANALYSIS OF fMRI BRAIN ACTIVATION DATA
BY UNSUPERVISED SUBSPACE METHODS

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PURPOSE: Extraction and analysis of fMRI brain activation information by
unsupervised subspace techniques.

MATERIALS AND METHODS: Application of the principal component (PC), factor
and cluster analyses to EPI brain activation data.

RESULTS: The first PC image represent the "average" image, the second or
third PC usually contains the main activation portion (the loading curve
suggests the time course of the activation), and the next few PCs seem to
contain pulmonary, motion and hardware artifacts. The remaining PCs contain
mainly noise. (By removing undesirable PCs one may use the filtered input
data in the usual supervised analysis manner, with better results). To
increase activation contrast several PCs can be combined into an oblique
factor and clustering techniques can further improve the activation
contrast. Obtained results suggest that motor strip activation network is
detectable by PCs in both frontal lobes and in the opposite motor strip,
independently on the primary motor strip data (significant PCs - and factors
- calculated on small ROI of a frontal lobe are highly correlated with the a
priori known activation curve).

CONCLUSION: the unsupervised techniques provide significant functional MRI
information that is difficult or impossible to obtain by the classical
supervised approach.

Second:

I got a new method (I hope nobody else got it before me, I have not followed
well the literature) of analysis of your data. As results I am getting a
dynamic display of activation process (a movie: "where and when"), with a
clear indication of networks. I am starting to write a paper and I am going
to put you there as the second author - if you do not object. However, this
method could be applied to more than a single tomographic slice and one
should be able to generate a "3D" image of brain with "lights going on and
off" to show the time development of activation. For that I would need whole
brain (or at least several slices) data. Further, the more complex the
activation process is, the better. So if we want to make more than one paper
out of it, we need such data. As I have not published it and showed it only
to few people here at UIC, please do not mention it before we have something
solid sent out.