

Overview

- Model specification
- Results page

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SPM: Specifying fMRI Models

- SPM2 Design Building
- 1st Specify design with “fMRI” – > “design”
 - SPM.mat file created
 - Unknown design info (e.g. filenames) left empty
 - *Hint*: Copy SPM.mat to save for later use
 - E.g. cp SPM.mat SPMnofiles.mat
- 2nd Specify files for design with “fMRI” – > “data”
 - SPM.mat file updated with filenames
 - *Hint*: Again, save a copy of SPM.mat
 - E.g. cp SPM.mat SPMfiles.mat

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SPM: Specifying fMRI Models

- 4rd Estimate
 - SPM.mat file updated with details of analysis
 - E.g. Number of voxels in brain, etc
- Note difference from SPM99!
 - SPM99 wrote design in separate files
 - File SPM_fmRIDesMtx.mat contained all details
 - File SPMcfeg.mat had image filenames, etc
 - Easy to recycle a design specification

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SPM: Specifying fMRI Models

- Re-using SPM2 designs
 - Must save copy of SPM.mat after “design”
 - Use saved copy in a different dir.
- For example
 - I could have created one SPM.mat (no files) that the whole class could use, since all of our subject’s had identical block paradigms (Won’t work with event-related, since different randomization)

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SPM: Specifying fMRI Models Terminology

- Onsets
 - Offset time of each block/event start
 - Specify units of scans or seconds
 - Offsets: first scan = 0
- Events vs Blocks
 - Events - Zero duration block
 - Blocks - Non-zero duration

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SPM: Specifying fMRI Models

- “Volterra” Interaction among trials
 - An attempt to model nonlinear interactions between trials with a linear basis
 - Not for the weak of heart
- “Parametric Modulation”
 - Normally, response magnitude is assumed fixed over trials
 - Instead, can model systematic ‘modulation’ of response
 - E.g. Larger response early, smaller response later

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