How to do good research & evaluation

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How to do good research

- Planning for incremental research
- Research defined by minimization of effort to get a paper out
- How incremental can it be to still get accepted
- Instead: think about long-term goals / hard problems
- Problem with the research evaluation

How to do good research

- Over-complicated models (or over-complicated description)
- Making models complex without any evaluation of necessity
- Missing justification for the approach
- Models designed for one particular dataset, hiding the fact that it doesn’t work elsewhere, random trying of datasets until it works
- Evaluation of the contribution of the individual components

Proper baselines

- Missing or flawed baselines
- Baselines implemented without care and with suboptimal results
- Use of weak baselines to show a bigger gap

How to do good evaluation

- Proper evaluation

  - tuning of the parameters on the test set, for example by looking at the results on the test set

  - tuning parameters per dataset by looking at the results on the test set

  - avoiding a precise description of how parameters were set

  - change of the training/test set-up with respect to the state of the art

Open sourcing of the code & data

- Open sourcing of the code and data
- Ideally for each paper [argument: too much work]
- Full description of the parameters, set-up, data
- Make results reproducible

Journal papers

- Extended description of the method
- In-depth evaluation
- Constructive feedback from the reviewers