CHECKLIST FOR THESIS AND SCIENTIFIC ARTICLES

Content

TITLE
Is descriptive
Is catchy
Contains no abbreviations (unless really everybody know them: TV, DNA)

ABSTRACT
clearly describes the subject
clearly describes what problem is solved
makes clear why subject / problem is relevant
clearly describes the methods used
describes as concretely possible the obtained results
clearly indicates what is new

INTRODUCTION
describes (in more detail) the subject
clearly describes the problem solved
makes clear why subject / problem is relevant
clearly describes the methods used
argues why these methods (language, techniques, tools,...) have been choosen
clearly describes the results
compares results with (state-of-the-art) literature
clearly indicates what is new
is complete: all important information in paper is mentioned in the intro

RELATED WORK (in Introduction or separate section)
describes the difference current paper and existing solutions
is up-to-date (as recent as possible)
is complete (no important work missed)

PROBLEM AND QUESTION (in separate section or section intro)
it is clear what the problem from the paper is
problem is SMART:
  - Specific
  - problem definition is measurable / quantitative wrt clear criteria
  - problem definition is feasible (proposal)
  - problem definition is relevant
  - problem definition is time bound / urgent

RESEARCH METHOD
is effective (does research questions indeed solve the research problem?)
is transferable (a peer achieves the same results as the author)
are obtained via to scientific methods

BODY ( results )
have been obtained according to the described research methods
are controllable
are repeatable

CONCLUSIONS
answer research questions
provide directions to for new research
do not contain any new information

CORRECTNESS
This paper is correct (and I dare to bet a crate of beer on this)
this paper is innovative
all statements are supported by arguments
arguments are convincing and obtained according to scientific methods
all design choices are well supported by arguments

Specific components

REFERENCES
are consistent (all same format)
for webpages is date indicated
the vast majority refer to reliable sources with scientific status

TOOLS and TOOL COMPONENTS
tool structure is written with image : component in box, data on arrows
of each tool (component) is described : input, output, methods
it is clear what has been programmed by the author, and what is from elsewhere (eg with color)

ALGORITHMS, MODELS
are explained using line numbers
it is clear what each line is

PICTURES, DIAGRAMS, TRANSITION SYSTEMS
every picture is explained
For each part in the picture it is clear what it represents (arrows, round boxes, etc)

FIGURES and TABLES
all figures are readable and provided with clear captions
all the figures are presented in tables, or better: diagrams
for multiple tables : results are aggregated in overview table
the introduction refers in advance to the most important result tables

PLANNING ( only in proposal)
is realistic
complies with format

General

STRUCTURE
paper is written according to (reverse) pyramid (= important info comes first)
uses the golden circle principle (what-why-how)
paper makes structure explicit: shows ever on what will go
paper contains only the information needed is for results to understand , no byways
GLOBAL
paper is consistent: it is always the same format / terminology used
introduces all concepts that are used
references to literature are explicit, clear, correct

LANGUAGE USE
language use is as specific / concrete as possible
there are short phrases used
English is correct
all sentences are complete (verb, subject)
the language is objective
There is little noun style used
language use is active
it is clear what reference words (which, it ...) refer to (no "dangling pointers")

EXPLANATION / UNDERSTANDING
where possible, examples are used for illustration purposes
I can explain this paper to my fellow peers
anyone with a BSc in computer science can understand this paper
explain difficult concepts, concepts, formulas, methods with examples
... I can not put invent where examples might be able to help
these examples are, where possible, pictures or diagrams