Seminar “Computational Finance”

Kick-off Meeting

Alexander Heinecke and Stefanie Schraufstetter

October 21th, 2011
Seminar Topics & Persons

1. 1st session
   1.1 stochastic basics & random numbers
   1.2 random numbers generating on GPUs

2. 2nd session
   2.1 options, futures, and other derivatives
   2.2 binomial and trinomial trees

3. 3rd session
   3.1 Monte-Carlo method
   3.2 least square Monte-Carlo method

4. 4th session
   4.1 Black-Scholes equation (deduction)
   4.2 discretization with sparse grids
   4.3 closing

(Dec 1st)
(Michael)
(Weiwei)
(Dec 2nd)
(Yutaka)
(Zhongwen)
(Dec 5th)
(Tijana)
(Lin)
(Dec 9th)
(Chiara)
(Samuel)
Workload & Grading

Tasks for a successful participation:

- write a paper
- write and give a talk
- participate in all talks (mandatory attendance!)

Weighting of the final grade:

\[ \approx 1 \text{ (paper)} : 1 \text{ (talk)} \]
Workload & Grading (cont’d)

Requirements:

- **paper:**
  pdf, ≈ 8 pages, font size 12, line spacing 1, A4

- **talk**
  25-30 min (≈ 10-15 slides, test it before!)
  + ≈ 5 min activation
  (e.g. questions, interactive demonstration, short quiz, . . .
  i.e. something, where your colleagues have to be active – just be
creative!)

- **meetings with the advisor**
  2 meetings (1 during preparation, 1 to check the slides)
Time Schedule

- kick-off meeting: Oct, 21st
- paper deadline (90% draft!!): Nov 25th
- talks:
  - time frame: Nov, 28th until mid of Dec
  - Thursdays, 16:00-18:00 (Dec 1st/8th/15th))
  - Fridays, afternoon
  - Thursdays, morning??
  - (Mondays, afternoon??)
- paper deadline (final version): Dec 14th
Important Notes

- deadlines are severely strict
- attend the meetings with your advisor to check content, paper, and slides
- send your paper to your advisor in time:
  - Alexander Heinecke: heinecke@in.tum.de
  - Stefanie Schraufstetter: schraufs@in.tum.de
Plagiarism

- avoid any act of plagiarism for your paper/talk, in particular:
  - all material that you used has to be cited (including websites)
  - even if you cite, it is not proper to copy text directly (also not, if you change the order of sentences, etc.)
- plagiarism will directly lead to a grade of 5.0
- we will check your handed in papers and reviews for plagiarism
- to avoid any problems, just keep to a simple guideline:
  
  Write everything in your own words and cite material you create your text from.
How to Write a Good Paper

Important points for the quality of a paper:

- language and spelling
- structure (correct/intuitive order, useful abstract and conclusions, references, etc.)
- consistency of the presentation (notation, figures, graphs, etc.)
- quality of the explanations
- use of references

More important points can be found in the review sample!

Main goals of the paper:

- practice formalization of mathematical contents
- practice your scientific paper writing skill
- good practice for writing the Master thesis later
How to Write a Good Paper

Structure of a paper:

1. header with title and author
2. short abstract (that whets the appetite for reading the paper)
3. introduction (including an overview over the paper)
4. main part (several sections, structure depends on the topic)
5. conclusion/summary/outlook
6. references

For more details, please check the guides of the next slide.
How to Write a Good Paper

Guides for the structure of the paper: (just a selection)

- and many more...
How to Give a Good Talk

Important points for good slides:

- give a short outline
- do not put too much content on a slide
- structure every slide, make it well-arranged
- use short, clear bullet points (not sentences!)
- choose the font size large enough (not smaller than this font!)
- use visualizations instead of text
- consider the previous knowledge of your colleagues (this is usually not too much since the topic is new!)
- check the spelling
How to Give a Good Talk

**Important points for a good talk:**

- speak loud and articulate clearly
- keep eye-contact to the audience
- apply Occam’s razor, do not go too much into detail
- do not exceed time
- practice the talk before (think what you want to tell, check time, etc.)
- prepare nice slides for the talk

**Main goals of the talk:**

- make your colleagues familiar with the topic
- practice your presentation skills
How to Give a Good Talk

Guides for a good talk and nice slides: (just a selection)

- and many more ...
Some More Specials of the Seminar

Chairman:
For every talk, one of the reviewers will be the chairman and . . .

- introduce the talk,
- pay attention that the lecturer will stay in time,
- moderate the discussion after the talk,
- ask an question to the lecturer, if nobody else has a question.

We plan awarding . . .

- the best talk
- the best activation

All participants of the seminar are members of the jury!

Feedback:
. . . is important. You will give feedback to each other in form of a questionnaire after the talk to improve your presentation skills.