List of Projects

Formal Methods in Software Development/Metode formale in dezvoltarea aplicatiilor software

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The project counts 20% of your final grade.

The general topic of the projects is *Formal methods in software development*, in particular topics which are related to those studied during the classes. Each team of students (a team consists of 2-3 students) has to read a paper from the list below and create a poster.

Important dates

- By December 22nd you announce the instructor of the chosen work and who are the members of your team.

- By final exam you have to create a poster; guides for creating a poster are at `https://guides.nyu.edu/posters`, `http://www.isee2017.com/download/Preparing_your_conference_poster.pdf`. An example of poster which I created some time ago is at `http://www.risc.jku.at/projects/SPy/poster-last.pdf`.

- There can not be 2 teams with the same project; the projects will be assigned based on FIFO principle (first come, first served).

Remarks:

- You can use any program you want to create your posters.

- If you want to use LaTeXBeamerposter package then you can start from `http://www.tex.ac.uk/FAQ-poster.html` and you can find some templates at `https://www.latextemplates.com/cat/conference-posters`

List of papers:

- [4], [7], [6], [5], [1] (Chapter 12), [3], [2]

- Specification and verification of sorting algorithms with JML and ESC/Java2,

- Papers on the verification of C# programs from `http://research.microsoft.com/en-us/projects/specsharp`

- Papers on the verification of C programs from `http://research.microsoft.com/en-us/projects/vcc`.

References

[1] Aaron R. Bradley and Zohar Manna. The Calculus of Computation: Decision Procedures with Applications to Verification. Springer-Verlag New York, Inc., Secaucus, NJ, USA, 2007.

[2] Lilian Burdy, Yoonsik Cheon, David R. Cok, Michael D. Ernst, Joseph R. Kiniry, Gary T. Leavens, K. Rustan M. Leino, and Erik Poll. An overview of jml tools and applications. International Journal on Software Tools for Technology Transfer, 7(3):212–232, Jun 2005.

[3] Patrice Chalin, Joseph R. Kiniry, Gary T. Leavens, and Erik Poll. Beyond Assertions: Advanced Specification and Verification with JML and ESC/Java2, pages 342–363. Springer Berlin Heidelberg, Berlin, Heidelberg, 2006.

[4] Lori A. Clarke. A program testing system. In Proceedings of the 1976 Annual Conference, ACM '76, pages 488–491, New York, NY, USA, 1976. ACM.

[5] Robert W. Floyd. Assigning Meanings to Programs, pages 65–81. Springer Netherlands, Dordrecht, 1993.

[6] C. A. R. Hoare. An axiomatic basis for computer programming. Commun. ACM, 12(10):576–580, October 1969.

[7] James C. King. Symbolic execution and program testing. Commun. ACM, 19(7):385–394, July 1976.