Research Procedure for a High-quality Professional Paper

The goal is that a graduate student can do research efficiently and effectively and then write an excellent conference paper for a real publication at an international conference.

**The logical research procedure is**

1. **Initial Investigation** (about 2 or more weeks):
   Consider several interesting research topics initially based on your own background, preferences and even future career, then start to look at relevant references such as books, journal papers, conference proceedings, Web sites of both universities and industry, friends, Web searching like [www.researchindex.com](http://www.researchindex.com) and Google, etc., and finally narrow down to one specific research project which is the best after the initial investigation.

2. **Further Investigation** (about 1 or 2 weeks):
   Focus on searching more relevant references for the specific research project, analyze different existing techniques in terms of technical merits and technical problems, then think about several possible technical approaches to enhancing and upgrading the old techniques, and finally find out the best approach in terms of feasibility, technical merits and quality.

3. **Design** (about 1 or 2 weeks):
   Use related techniques to design a new basic system (or a new algorithm) with novel advanced technical merits (theoretically speaking).

4. **Implementation** (about 2 or more weeks):
   Use a programming language to implement the system (or the algorithm), and debug it to make sure that it works correctly.

5. **Simulations** (about 1 or 2 weeks):
   Do a sufficient number of simulations, and record real results.

6. **Performance Analysis** (about 1 week):
   Use tables and figures to compare the new method with others objectively, and then summarize true performance analysis.

7. **Conference Paper** (about 2 or more weeks):
   Use a professional format (see the posted paper, and other journal papers and conference papers you found at steps 1 and 2) to include all basic components related to Steps 2, 3, 4, 5 and 6 into the paper nicely. You must clearly state your new discovery and other new technical merits over old ones. Finally, a conclusion and future work will be given.

8. **Proofreading** (about 1 week):
   Make sure all references are properly cited (if cited contents word by word from a reference, you must use quotation “…” to highlight the cited content).

9. **Submission**:
   Find out relevant good conferences, submit it to one of them first, …, until it is accepted.

10. **Conference Presentation (at the end of this semester)**:
    About 20-25 slides (ppt file) which can summarize major contributions clearly and logically.