How to Write Fast Code
18-645, spring 2008
25th Lecture, Apr. 16th

Instructor: Markus Püschel
TAs: Srinivas Chellappa (Vas) and Frédéric de Mesmay (Fred)
Research Project

- Project expectations
- Paper templates and instructions will be uploaded soon

April 2008 Calendar

- Today
- Papers due
- Last class: poster session 5:30 – 8:30
- Due:
  - Final papers
  - Final code
Poster Presentation

- Apr 30th, 5:30 – 8:30pm
- Scaife Hall and area around it
- You have to buy card board (e.g., Kinko’s) around 2.5 x 3.5 feet
- You can create a set of slides or a poster that fits
- We provide easel (or stand)
- More details on poster making next week
Last Time: Matlab

- Writing fast Matlab code
- Profiling tool to find hotspots
- Use Mex interface to implement hotspots in C

Consequence: all techniques learned in this class are applicable to (considerably) speeding up your Matlab code
Feedback on Feedback

- Many positive remarks: thank you
- Skipping one homework?
- Some lectures too mathematical
- Methods generally applicable?
- CUDO/GPU or other latest platforms
- Some homeworks are long
- More time for project
- Parallel/threading: earlier, more
- Compiler flags

- These and others and previous comments → next time I teach this class
FIR Filters

Athlon XP 1.73

- 16: Time domain wins
- 32: Karatsuba wins
- 64: Karatsuba/DFT \( \sim \) equal
## Best Filter Algorithms

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