

Final Review

→ email me your

PIES of photon-mapped
model(s) — the relative
image by Friday

Apr. 27 COB

What the course covered:

- C++:

- Big 3 (op=, dest, ,
copy constructors.)

- templating
(generic prog.)

- overloading (operator)
(polymorphism)

- inheritance (OOP)

- parallel programming
(OMP, multi-core)
- STL

- Alg. Analysis

- Asymptotic functions
($O(f(n))$)

- Inductive proof

- Recurrence relations
(Telescoping sum,
recursive backsub.)

Algo rthms

- Sorting:

quicksort

mergesort

heapsort,

bubble sort,

selection sort

insertion sort

- Alg's (cont'd)

- shortest path

- MST

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Minimum spanning

tree

- Data structures

- array
- list
- stack
- binary search tree
- AVL tree
- hash tables
- kd-tree
- graphs (adj. list, STL maps)

- Extras

ARTS

- event-driven

programming (Qt)

- graphics (OpenGL)

- Obj-C

- photon mapping

Final Exam

- asymptotic functions

- big-oh (reduce a
f + n

- order
functions

$$7n^4 + 72n^2 +$$

$$297n$$

$$+ 0(f+n)$$

$$\rightarrow O(n^4)$$

$$O(f_1) < O(f_2)$$

$$\leq O(f_3) \dots$$

- fluence relations
(30%)

- two long questions
(solve)

- practice what's
in the text

- sorting alg's.

- heap sort

- insertion sort

- selection sort

- bubble sort

- merge sort

- quick sort

- how they work,

how they compare

- shortest path:

- Use Dijkstra's

Dijkstra's in your
head

- C++:

- "What does this program do?"

(couple of those,
+ lucky!)

- AVL trees:

- be able to do
rotations

- Know in order,
pre-order,

post-order

traversals

(e.g. "print" tree contents)