Yongyoung Byun

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Education

- M.S. candidate in Computer Science   03/2008-Present
    Advisor : Sung-Eui Yoon
    KAIST, Daejeon, South Korea
- B.S. in School of computing   03/2003-02/2008
    Soongsil University, Seoul, South Korea

Research Interests

- GPU Parallel Computing
- Real-Time Rendering
- Scalable graphics/geometric algorithms

Current Research

- parallel KNN search using hybrid photon map
  The photon mapping is one of the most popular global illumination algorithms. However, it is used as off-line renderer because there are many K-nearest-neighbor searches to compute irradiance on the surface which ray hit. In order to search photons efficiently, KD-Tree usually is used. However, if the number of searched photons is increased, the time of KNN is also increased almost linearly. My research is to speed up the KNN search using a hybrid photon map and parallelism of CPU.

Experiences

- Teaching Assistants   03/2009-05/2009
  Computer Graphics, Dept. Computer Science, KAIST
- Research Assistant
  OpenPM(Open Photon mapping)
  Implemented Real-Time whitted-style ray tracing on GPU using CUDA.
- Teaching Assistants   09/2008-12/2008
  System programming, Dept. Computer Science, KAIST
- The Eleventh-term Member   03/2006-02/2008

System On ChipS(SOCS)

Research group, Dept. Computer Science, Soongsil University.

Conduct two projects

- Auto Parking Manager(APM)
- Weather In Mountain(WIN)

- Staff Member   01/2005-02/2006

  Kangbyeon CGV

  Learned social communication.

- Manager, Planning Department   03/2004-12/2004

  A Students' Association, Dept. Computer Science, Soongsil University.

  Organized the orientation for freshmen and a departmental social activity(600여명 규모의 운동회)

  Participated the voluntary activities for farmers.

Technical Reports

- HCCMeshes : Hierarchical-Culling oriented Compact Meshes

  Tae-Joon Kim, Yongyoung Byun, Bochang Moon and Sung-Eui Yoon

  CS-TR-2009-315, Dept. Computer Science, KAIST

- Cache-Oblivious Ray Reordering

  Bochang Moon, Yongyoung Byun, Tae-Joon Kim and Sung-Eui Yoon

  CS-TR-2009-314, Dept. Computer Science, KAIST

  Under submission

Honors and Awards

- 2006 한이음 mentoring Excellence Award from Ministry on Information and Communication.
- 2006 Hyungnam Science Silver Award from Soongsil University.
- Excellence Staff Award from Kangbyeon CGV.
- Scholarship for four years from Soongsil University.

Skills

- Programming Languages & APIs

  C, C++, CUDA, Java, OpenGL, Assembly, MySQL, HTML, Verilog HDL.

- Software Experience

  MS Visual studio, Vim, Eclipse, EditPlus, Xilinx ISE 8.0, Quartus II

- Operating Systems,

  Windows 95/98/XP/Vista, Linux SuSE/Fedora