Muhammad A. Awad

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Education

University of California, Davis, Davis, CA

Ph.D. Student, Electrical and Computer Engineering Department. 2016 to present

- Advisor: Professor John D. Owens

Alexandria University, Alexandria, Egypt

B.S., Naval Architecture and Marine Engineering Department, 2009 - 2013

Research Experience

Graduate Student Researcher — September 2016 to present
Electrical and Computer Engineering Department,
University of California, Davis
Supervisor: Professor John D. Owens

Teaching Experience

Part-Time Teaching Assistant — July 2014 to October 2016
Arab Academy for Science, Technology and Maritime Transport,
College of Maritime Transport and Technology
Courses: Ship Design (MM543T) and Naval Architecture (MM241T).

Professional Experience

Programming Intern — July 2017 to September 2017
Activision Publishing, Redmond, WA

Publications

1. **M. A. Awad**, S. Ashkiani, R. Johnson, M. Farach-Colton and J. D. Owens. "Engineering a High-Performance GPU B-Tree." *Proceedings of the 24th ACM SIGPLAN Symposium on Principles and Practice of Parallel Programming (PPoPP)*. February 2019.

2. S. A. Mitchell, M. S. Ebeida, **M. A. Awad**, C. Park, A. Patney, and A. Rushdi. "Spoke-Darts for High-Dimensional Blue-Noise Sampling." *ACM Transactions on Graphics (TOG)*. July 2018.

3. **M. A. Awad**, A. Rushdi, M. A. Abbas, S. A. Mitchell, A. H. Mahmoud, C. L. Bajaj, M. S. Ebeida. "All-Hex Meshing of Multiple-Region Domains without Cleanup." *Proceedings 25th International Meshing Roundtable (IMR25)*. September 2016.

4. M. S. Ebeida, A. Rushdi, **M. A. Awad**, A. H. Mahmoud, D.-M. Yan, S. English, J. D. Owens, C. Bajaj, and S. A. Mitchell. "Disk Density Tuning of a Maximal Random Packing." *SGP 2016*. June 2016.

5. M. S. Ebeida, S. A. Mitchell, A. Patney, A. A. Davidson, S. Tzeng, **M. A. Awad**, A. H. Mahmoud, and J. D. Owens. ""Exercises in High-Dimensional Sampling: Maximal Poisson-disk Sampling and k-d Darts." In Janine Bennett, Fabien Vivodtzev, and Valerio Pascucci, editors, *Topological and Statistical Methods for Complex Data Tackling Large-Scale, High-Dimensional, and Multivariate Data Sets, Springer*. June 2014.

6. M. S. Ebeida, **M. A. Awad**, X. Ge, A. H. Mahmoud, S. A. Mitchell, P. M. Knupp, and L.-Y. Wei. "Improving Spatial Coverage while Preserving Blue Noise of Point Sets." *Computer Aided Design (SIAM GD/SPM 2013)*. November 2013.

7. M. S. Ebeida, A. H. Mahmoud, **M. A. Awad**, M. A. Mohammed, S. A. Mitchell, A. Rand, and J. D. Owens. "Sifted Disks." *"Computer Graphics Forum (Eurographics 2013), 32(2).* May 2013.

Talks

1. **M. A. Awad**. "Engineering a High-Performance GPU B-Tree." *NVIDIA*. April 2019.

Technical Skills

- Programming: C++, QT, OpenGL, CUDA C/C++ , FORTRAN.
- Applications: AutoCAD, Paraview, LaTeX, MATLAB (linear algebra).
- Operating Systems: Microsoft Windows, and Linux

References

Professor John D. Owens (advisor)
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