## 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

Graduate Student Researcher

September 2016 to present

EXPERIENCE 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

EXPERIENCE 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.
- 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.
- 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.

- TECHNICAL SKILLS Programming: C++, QT (GUI Programming), OpenGL, CUDA C/C++, FORTRAN.
  - Applications: AutoCAD, Rhinoceros, Paraview, Maxsurf ship modeling and analysis package, Robot Structural analysis, LATEX, MATLAB (linear algebra), Microsoft Office, PostScript, and other common packages for Windows.
  - Operating Systems: Microsoft Windows, and Linux

## References

Professor John D. Owens (advisor)

Child Family Professor of Engineering and Entrepreneurship

Electrical and Computer Engineering Department

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