Floyd M. Chitalu

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EDUCATION

CDT in Pervasive Parallelism (PhD) - 3 Years (Full-time) Sep 2016 – Feb 2020

- Institution: *University of Edinburgh, School of Informatics*
- Dissertation: *Accelerating and Simulating Detected Physical Interactions*
- Supervisors: *Prof. Taku Komura & Dr. Christophe Dubach*

CDT in Pervasive Parallelism (MSc)(R) - *Distinction* Sep 2015 – Aug 2016

- Institution: *University of Edinburgh, School of Informatics*
- Thesis: *Data-Parallel Continuous Collision Processing for Volumetric Meshes*
- Supervisors: *Prof. Taku Komura & Dr. Christophe Dubach*

Computer Games Technology (BSc)(Hons) - *Distinction* Sep 2010 – May 2015

- Institution: *University of the West of Scotland*
- Thesis: *GPGPU in Real-Time Graphics Acceleration*
- Supervisor: *Dr. Pablo Casaseca*

PUBLICATIONS

JOURNALS

[4] F. M. Chitalu, Q. Miao, K. Subr and T. Komura, "Displacement-Correlated XFEM for Simulating Brittle Fracture," *Comput. Graph. Forum (2020)*, [conditionally accepted] May 2020.

[3] F. M. Chitalu, C. Dubache and T. Komura, "Binary Ostensibly-Implicit Trees for Fast Collision Detection," *Comput. Graph. Forum (2020)*, [conditionally accepted] May 2020.

CONFERENCES

[2] F. M. Chitalu, C. Dubache and T. Komura, "Bulk-synchronous parallel simultaneous BVH traversal for collision detection on GPUs," in *Proceedings of the ACM SIGGRAPH Symposium on Interactive 3D Graphics and Games, I3D 2018*, Montreal, QC, Canada, May 2018.

[1] F. M. Chitalu, B. Koniaris, and K. Mitchell, "Method for Efficient CPU-GPU Streaming for Walkthrough of Full Motion Lightfield Video," in *Proceedings of the 14th European Conference on Visual Media Production (CVMP 2017)*, London, UK, Dec 2017.

AWARDS & SCHOLARSHIPS

Patent (17-DIS-236-STUDIO-US-UTL) Mar 2019

- Memory Allocation for Seamless Media Content Presentation

Renfrewshire Education Trust Award Jul 2015

- Most Distinguished Graduate of the University (UWS).

University Court Medal Jul 2015

- Best achieving student in the School of Engineering and Computing (UWS).

WORK EXPERIENCE

Software Eng. Intern Jun 2018 – Sep 2018

- Employer: *Codeplay Software LTD*
- Project(s): *SYCL 1.2 Benchmarks.*

Research Lab Associate Apr 2017 – Aug 2017

- Employer: *Disney Research Labs*
- Project(s): *High-bandwidth CPU-GPU Streaming for Lightfield Rendering*

Software Eng. Intern Jul 2015 – Aug 2015

- Employer: *Codeplay Software LTD*
- Project(s): *Vulkan API layer for real-time shader editing.*

Software Eng. Intern Jun 2013 – Aug 2014

- Employer: *Codeplay Software LTD*
- Project(s): *OpenCL 1.2 & SYCL testing; OpenCL 2.0 benchmark development.*

TALKS

BSP simultaneous BVH traversal for collision Detection on GPUs — May 2018
- Presented at I3D, Montreal, Canada

Method for Efficient CPU-GPU Streaming of Full Motion Lightfield Video — Dec 2017
- Presented at CVMP 2017, London

Immersive Rendered Interactive Deep Media — Dec 2017
- Presented at CVMP 2017, London

Collision Detection on GPUs Collision Detection on GPUs — May 2016
- Presented at CriticalBlue Ltd, Edinburgh

TEACHING

Computer Animation and Visualisation — Jan 2018- May 2018
- Year 4 Undergraduate + Masters

PROFESSIONAL AFFILIATIONS & ACTIVITIES

Secretary
- Organisation: Scotland-Zambia Association (charity)
- Projects(s): Annual celebrations; Community engagement events; Administration.

2014 – 2017

LANGUAGES

- English (United Kingdom): Native.
- Bemba (Republic of Zambia): Native.
- Spanish: Basic.

SKILLS

C, C++, OpenGL, OpenCL®, CUDA, Python, Cross-platform Software Dev (Linux and Windows®), Computational Geometry (CGAL), LaTeX, R-statistics, CMake, Git

INTERESTS

Computer Graphics; Physics-based Simulations; Parallel Computing (GPU); Scientific Research

REFERENCES

Available upon request.

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