David Roberts

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EDUCATION

DURHAM UNIVERSITY
PhD in Computer Science
TBC 2016 | Durham, UK

DURHAM UNIVERSITY
BSc in Computer Science
First Class
July 2010 | Durham, UK

THE SIXTH FORM COLLEGE, SOLIHULL
July 2007 | Solihull, UK

SKILLS

LANGUAGES
C++ • Lua • C
Familiar:
Java • Python • C#
Javascript • Go

TECHNOLOGIES
3D Graphics • Image Processing
Software Rendering • OpenCV
3D Displays • Signal Processing
LaTeX• SPSS (statistics)

LINKS

LinkedIn:// david-roberts-2585b820
Github:// davidatroberts

EXPERIENCE

DURHAM UNIVERSITY | Demonstrator for Undergraduate Labs
Sept 2012 - March 2016

- Three years experience of demonstrating Real-Time Computing 3rd year course, embedded C
- One year experience of demonstrating Introduction to Programming 1st year course, Java

BSKYB | Application Support Developer
Sept 2010 - Sept 2012 | Isleworth, UK

- Worked in the Corporate ADM team to design and develop web applications and services in C#, Javascript.
- Technologies used include MS SQL, .Net, HTML5, RESTful APIs
- Followed product life cycles from design to deployment
- Designed and developed the web application for targeting demographics for Sky Adsmart

RESEARCH

INNOVATE COMPUTING GROUP | PhD Research Student
Sept 2012 - March 2016 | Durham, UK

My research involved the evaluation of direct volume rendering, a method of producing images from volumetric data sets typically from the medical domain. This involved:

- Developing a software-based raycaster volume renderer to display the images with a choice of reconstruction filters, sampling strategies and display output.
- Image processing techniques that includes methods to calculate the amount of blurring and aliasing in images
- Analysis of depth perception with volume rendering and how parameters in the algorithm can alter volume rendered images are perceived.
- Evaluating volume rendering with 3D displays in particular how rendering artefacts can effect visual understanding of the images

AWARDS

2015 Recieved postgraduate study award bursary
2014 Received postgraduate study award bursary

PUBLICATIONS

[1] D. A. T. Roberts and I. Ivrissimtzis, “Quality measures of reconstruction filters for stereoscopic volume rendering,” *To appear in: Computational Visual Media*, 2016.

[2] D. A. T. Roberts, I. Ivrissimtzis, and N. S. Holliman, “An evaluation of reconstruction filters for a path-searching task in 3D,” in *Sixth International Workshop on Quality of Multimedia Experience*, 2014.

[3] D. A. T. Roberts, “Investigating depth perception with stereoscopic volume rendering,” in *Theory and Practice of Computer Graphics*, 2014.