

Hubert P. H. Shum

Contact

Biomechanical Simulation Research Team
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Education

- 2006-2010 Ph. D. in Computer Science,
University of Edinburgh, Edinburgh, United Kingdom
- Thesis title: Simulating Interactions Among Multiple Characters
- 2004-2005 M. Sc. In Information Technology,
City University of Hong Kong, Hong Kong, China
- Distinction, GPA 3.97
- 2000-2004 B. Eng. In Computer Engineering,
City University of Hong Kong, Hong Kong, China
- Best Final Year Project Award in 2004
Title: Vision Based Human-Computer Interaction
- Dean's List in 2004

Experience

- 2010-Present Postdoctoral Researcher
RIKEN, Japan
- Researching on musculoskeletal simulation and human motion synthesis
- Publishing research papers
- 2006-2009 Tutor
University of Edinburgh, Edinburgh, United Kingdom
- Holding tutorial classes in computer graphics and computer vision
- Occasionally teaching in, and preparing materials for, regular lectures

- 2004-2006 Research Assistant
City University of Hong Kong, Hong Kong, China
- Conducting research, and publishing research papers, on computer graphics and computer vision
- Holding tutorial classes in computer game design
- 2003-2004 Engineering Trainee
Dongguan Nokia Mobile Phones Company Limited, Dongguan, China
- Designing and implementing database software to manage production

Patents

Interaction Patches for Multi-Character Animation (Patent Pending)

Awards

Ph. D scholarship in 2006: £37000

- Received from the School of Informatics, University of Edinburgh

Initiating Knowledge Transfer Fund: £15000

- Received from the Edinburgh Research and Innovation

- Migrating the Interaction Patches project to Autodesk Maya for industrial applications

Best Paper Award in the 2008 Annual Conference on Computer Animation and Social Agents

Speaking Languages

English – Fluent

Mandarin – Fluent

Cantonese – Fluent

Japanese – Elementary

Skills

Strong programming background and extended experience on C, C++, OpenGL, DirectX, SQL server and Maya API

Broad experience in different programming language (Visual Basic, ASP, ASP .NET, HTML, Java Script, Action Script, Pascal, Assembly), 3D graphics software (Maya, Motion Builder), video editing software (Adobe Premiere), web design software (Flash, Dreamweaver, Fireworks) and operation system management (Windows Server)

References

Dr. Taku Komura

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Publications

(For video demonstrations, please visit <http://info.hubertshum.com>)

Refereed Journal Papers

1. Hubert P. H. Shum, Taku Komura, Masashi Shiraish and Shuntaro Yamazaki
Interaction Patches for Multi-Character Animation
Proceedings of the 2008 ACM SIGGRAPH Asia (SIGGRAPH Asia 2008) / ACM Transactions on Graphics
2. Hubert P. H. Shum, Taku Komura, Pranjul Yadav
Angular Momentum Guided Motion Concatenation
Proceedings of the 2009 Computer Animation and Social Agents (CASA 2009) / Journal of Computer Animation and Virtual World
3. Jeff K. T. Tang, Howard Leung, Taku Komura and Hubert P. H. Shum
Emulating Human Perception of Motion Similarity
Proceedings of the 2008 Computer Animation and Social Agents (CASA 2008) / Journal of Computer Animation and Virtual World

Refereed Conference Papers

1. Hubert P. H. Shum, Taku Komura and Shuntaro Yamazaki
Simulating Interactions of Avatars in High Dimensional State Space
Proceedings of the 2008 Symposium on Interactive 3D Graphics and Games (I3D 2008)
2. Hubert P. H. Shum, Taku Komura and Shuntaro Yamazaki
Simulating Competitive Interactions using Singly Captured Motions
Proceedings of the 2007 ACM Symposium on Virtual Reality Software and Technology (VRST 2007)
3. Jeff K. T. Tang, Howard Leung, Taku Komura and Hubert P. H. Shum
Finding Repetitive Patterns in 3D Human Motion Captured Data
Proceedings of the 2008 International Conference on Ubiquitous Information Management and Communication (ICUIMC 2008)
4. Hubert P. H. Shum and Taku Komura
Tracking the Translational and Rotational Movement of the Ball Using High Speed Camera Movies
Proceedings of the 2005 IEEE International Conference on Image Processing (ICIP 2005)

5. Hubert P. H. Shum and Taku Komura
A Spatiotemporal Approach to Extract the 3D Trajectory of the Baseball from a Single View Video Sequence
Proceedings of the 2004 IEEE International Conference on Multimedia and Expo (ICME 2004)

Book Chapters

1. Taku Komura, Hubert P. H. Shum and Edmond S. L. Ho
Simulating Interactions of Characters
The 2008 Lecture Notes In Computer Science: Motion In Games (MIG 2008)

Thesis

1. Hubert P. H. Shum
Simulating Interactions Among Multiple Characters
PhD Thesis, The University of Edinburgh, 2010