Ph.D. candidate in Computer Graphics

# CHI WANG

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## Education

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| Visiting Ph.D. student | Charles University, Computer Graphics Group, Prague, CZ | 11.2015-08.2017 |

- Polarisation ray-tracing; physically-based BRDF model; supervised by Alexander Wilkie.

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| Ph.D. student in Computer Science | Hefei University of Technology, Hefei, China | 09.2013-12.2017 |

- Graduating at Dec. 2017.

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| M.Eng. in Computer Science | Hefei University of Technology – Hefei, China | 05.2013-09.2010 |
| Exchange student in Mechatronics | Hochschule Heilbronn, Heilbronn, Germany | 02.2012-08.2012 |
| B.Eng. in Information Security | Hefei University of Technology – Hefei, China | 09.2006-07.2010 |

## Skills

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| Computer Graphics | : | physically-based rendering, polarisation ray-tracing, BRDF model, global illumination. |
| Programming | : | C++(skilled), Objective-C, C, Java. |
| Tools/systems | : | Visual Studio, Xcode, Matlab, Latex, Git, Shell Script, Windows, Mac OS X, Linux. |
| Language | : | English(fluent), Chinese(native speaker), German(A1.1). |

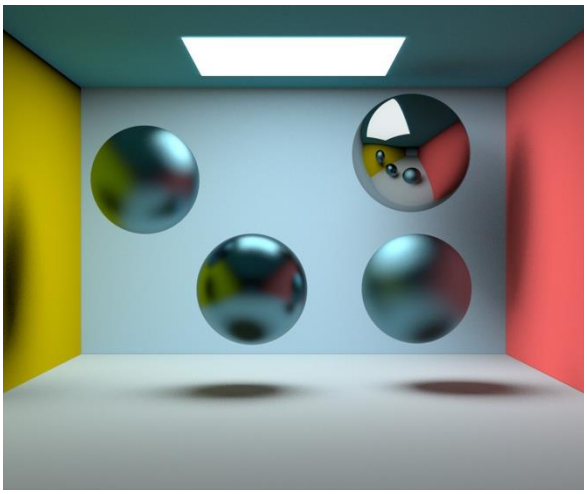
## Project Experiences

**RESEARCH PROJECT: VIRTUAL ELLIPSOMETRY ON LAYERED MICRO-FACET SURFACES** - Charles University, Computer Graphics Group, Prague, 11.2015 - Present

- Build up brute force simulator for reflection on layered surface with polarisation ray-tracing.
- Simulate surfaces via procedural modelling.
- Generate reference data for layered BRDF with multi-scattering and polarisation taken into account.
- Investigate the impact of polarisation on layered BRDF models (submitted to EGSR2017).
- Techniques: polarisation ray-tracing, procedural modelling, BRDF model, scanning electron microscopy, ellipsometry.
- Tools: Objective-C, C, Mac OS, Xcode, Git, Shell Script, Matlab.

**PERSONAL PROJECT: VISCARIA_RENDERER** - Prague, 06.2016 - Present

- Build up a simple physically-based 3D renderer.
- Techniques: global illumination(path tracing), multiple importance sampling, micro-facet BRDF model.
- Tools: C++, Visual Studio, Github, Embree, OpenMP.
- Github repository: https://github.com/wangchi87/Viscaria_Renderer

**POLARISATION SIMULATION SOFTWARE –** Hefei University of Technology, China, 09.2010 – 03.2013

- Simulate Rayleigh, Mie particle scattering, light transportation, and skylight polarisation distribution.
- Techniques/Tools: optics, Monte Carlo algorithm, OpenGL, C++, Visual Studio, MySQL.

**RESEARCH PROJECT: STRING MATCHING WITH VARIABLE LENGTH OF WILDCARDS –** Hefei University of Technology, China, 01.2010 – 03.2011

- Develop algorithm for exact and approximate string matching with variable length of wildcards.
- Techniques/Tools: string pattern recognition, dynamic programming, suffix tree, Java, Netbeans.

## Awards

- 2016 Scholarship holder of Chinese National Scholarship for doctoral student
- 2015 Scholarship from Chinese Scholarship Council.
- 2012 Baden-Wuerttemberg Stipendium

## Publications

- Chi Wang, Jun Gao, Tingting Yao, et al. Acquiring reflective polarization from arbitrary multi-layer surface based on Monte Carlo simulation[J]. Optics Express, 2016, 24(9): 9397-9411.
- Chi Wang, Zhao Xie, Jun Gao, Tingting Yao. Research progress on polarization ray-tracing rendering[J]. Ruan Jian Xue Bao/Journal of Software, 2016,27(1):136-154. (in Chinese)
- Chi Wang, Hao Wang, Zhao Xie, Jun Gao. Exact string matching with variable length of Don't Cares based on suffix tree[C]. International Conference on Information Science and Technology, 2011, 109-113.
- Tingting Yao, Zhao Xie, Jun Gao, Chi Wang. Discriminative sequential association latent dirichlet allocation for visual recognition[J]. Pattern Analysis and Applications, 2016, 3(19): 719-730.
- Hui Cao, Jun Gao, Lingmei Wang, Chi Wang. Polarization Modeling and Analysis of Light Scattering Properties of Multilayer Films on Slightly Rough Substrate[J]. Spectroscopy and Spectral Analysis, 2016, 36(3):640-647. (in Chinese)
- Hao Wang, Chi Wang. Improved approximate pattern matching algorithm with variable length wildcards[J]. Journal of Nanjing University of Science and Technology,2016,40(06):687. (in Chinese)
- Renbin Zhang, Lingmei Wang, Jun Gao, Chi Wang. The Effect of Observation Geometry on Polarized Skylight Spectrum[J]. Spectroscopy and Spectral Analysis, 2015, 35(3):700-705. (in Chinese)
- Yi Lv, Jun Gao, Lingmei Wang, Chi Wang. Light Scattering Properties of Semitransparent Coatings on Rough Substrate Based on Surface Generation Method. ACTA PHOTONICA SINICA, 2015, 44(3): 329002-329008. (in Chinese)
- Haibo Yan, Jun Gao, Lingmei Wang, Huangzhi Lin, Chi Wang. The Analysis of Skylight Polarization Pattern Change Influenced by Aerosol's Scattering Properties. Chinese Journal of Light Scattering, 2015, 27(1): 1-9. (in Chinese)
- Yingling Liu, Xindong Wu, Xuegang Hu, Jun Gao, Chi Wang. Pattern matching with wildcards based on multiple suffix trees[C]. IEEE International Conference on Granular Computing, IEEE, 2012: 320-325.