

# Alisa Jung

alisajung.github.io

## Education

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<b>Karlsruhe Institute of Technology</b> , PhD in Computer Science	Aug 2017 - May 2024
<ul style="list-style-type: none"><li>• <b>Thesis:</b> Mollifying Realistic Image Synthesis for Time Constrained Rendering</li><li>• <b>Research:</b> Physically based and spectral rendering, fluorescence, regularization, path guiding.</li><li>• <b>Programming:</b> Mostly C, C++, Python, some bash. Linux and Windows.</li><li>• <b>Teaching:</b> Exercise for lectures, advising student projects and theses.</li></ul>	
<b>Karlsruhe Institute of Technology</b> , M.Sc. in Computer Science	Apr 2015 - Jun 2017
<ul style="list-style-type: none"><li>• <b>Thesis:</b> Fluorescence in Bidirectional Rendering</li></ul>	
<b>Cornell University</b> , Ithaca NY. Semester abroad for Master's thesis	Oct 2016 - Mar 2017
<b>Karlsruhe Institute of Technology</b> , B.Sc. in Computer Science	Sep 2011 - Mar 2015
<ul style="list-style-type: none"><li>• <b>Thesis:</b> Irradiance Importance Sampling</li></ul>	

## Experience

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<b>Visiting Rendering Researcher</b> , Weta Digital / Unity – Wellington, New Zealand	Jan 2023 – Jun 2023
<ul style="list-style-type: none"><li>• Physically based rendering, path guiding and regularization in Manuka (C++)</li></ul>	
<b>Student Assistant</b> , Karlsruhe Institute of Technology	Mar 2016 – Sep 2016
<ul style="list-style-type: none"><li>• Programmer (C++) for data-driven BRDFs in photorealistic rendering</li></ul>	
<b>Teaching Assistant</b> , Karlsruhe Institute of Technology	Oct 2012 – Feb 2016
<ul style="list-style-type: none"><li>• Tutoring for lecture "Basic notions of computer science", each winter term</li></ul>	
<b>Lecturer</b> , Duale Hochschule Baden-Württemberg – Karlsruhe	May 2015 – Jul 2015
<ul style="list-style-type: none"><li>• Lecturer for "Mobile Application Development"</li></ul>	
<b>Student Assistant</b> , Fraunhofer IOSB – Karlsruhe	Mar 2014 – Sep 2014
<ul style="list-style-type: none"><li>• Programmer (C++) for path planning for a mobile robot platform and arm</li></ul>	
<b>Student Assistant</b> , Teco research group (KIT) – Karlsruhe	Jun 2013 – Sep 2013
<ul style="list-style-type: none"><li>• Programmer (Java) for distributed smart home applications</li></ul>	

## Voluntary Activities

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<b>Ultimate Frisbee Coach</b> , MTV Karlsruhe	Since 2018
<ul style="list-style-type: none"><li>• Coaching beginner and intermediate-level teams, planning and assisting at events</li></ul>	
<b>Student Dorm Activities</b> , Hans Dickmann Kolleg Karlsruhe	Apr 2012 – Sep 2016
<ul style="list-style-type: none"><li>• Various roles in dorm self-government, preparing and assisting on dorm's events</li></ul>	

## Skills

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- **Technologies:** C, C++, Python, C#, Java, Git, GitLab, Linux, Windows.  
Basic experience with Blender, Katana, Unity, GLSL, Vulkan, OpenGL.
- **Languages:** German (native), English (proficient), French (basic)

## Publications

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### **Guiding Light Trees for Many-Light Direct Illumination.**

Eric Hamann, Alisa Jung, Carsten Dachsbacher  
Eurographics 2023 – Short Papers

### **Path Guiding with Vertex Triplet Distributions**

Vincent Schüßler, Johannes Hanika, Alisa Jung, Carsten Dachsbacher  
Computer Graphics Forum 41(4), EGSR 2022

### **Improving Spectral Upsampling with Fluorescence**

Lars König, Alisa Jung, Carsten Dachsbacher  
MAM2020: Eurographics Workshop on Material Appearance Modeling

### **Detecting Bias in Monte Carlo Renderers using Welch's t-test**

Alisa Jung, Johannes Hanika, Carsten Dachsbacher  
Journal of Computer Graphics Techniques Vol. 9 (2), 2020. Presented at I3D 2021.

### **Spectral Mollification for Bidirectional Fluorescence**

Alisa Jung, Johannes Hanika, Carsten Dachsbacher  
Computer Graphics Forum 39(2) (Proceedings of Eurographics) 2020

### **Wide Gamut Spectral Upsampling with Fluorescence**

Alisa Jung, Alexander Wilkie, Johannes Hanika, Wenzel Jakob, Carsten Dachsbacher  
Computer Graphics Forum 38(4), EGSR 2019, runner-up for best paper award

### **Selective guided sampling with complete light transport paths**

Florian Reibold, Johannes Hanika, Alisa Jung, Carsten Dachsbacher  
ACM Transactions on Graphics 37(6) (Proceedings of SIGGRAPH Asia 2018)

### **A Simple Diffuse Fluorescent BBRRDF Model**

Alisa Jung, Johannes Hanika, Steve Marschner, Carsten Dachsbacher  
MAM2018: Eurographics Workshop on Material Appearance Modeling