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Industrial Light & Magic

San Francisco, California - United States
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ILM Senior R&D Engineer – Rendering/Shading

Primary Job Duty: rendering shading

Primary Software: APIs

Salary: DOE

Description

As part of the R&D Department that supports Industrial Light & Magic, an exciting opportunity exists for a senior engineer to join the rendering/shading team as a key contributor to the development of our next-generation set of physically-based shaders.

R&D Engineers work closely with lead artists and supervisors to solve technical challenges and meet the demands of high-end VFX production.

The duties are a mix of applied research, development, maintenance and end-user support, as an integral part of the creative process on major motion pictures such as Star Wars, Jurassic World, Avengers, and many others.

Primary Responsibilities:

- Design and architect solutions based on state-of-the-art rendering and shading technologies.
- Develop physically-based shaders and tools for Renderman RIS and/or other path tracers.
- Build and maintain relationships with key artists, working directly with them to solve lighting and rendering challenges.
- Keep abreast of the state of the art in rendering as well as available commercial software, serving as a knowledge resource for technologies used in production at ILM.
- Provide technical support to artists in production.
- Participate in discussions surrounding future technologies and/or systems regarding their appropriateness of solution.
- Collaborate with other members of the rendering/shading team, leading projects and project teams as appropriate.

Education, Experience and Skills:

- Bachelor's degree in Computer Science or related scientific or engineering discipline plus 5+ years of professional experience; advanced degree in Computer Science with a focus in Computer Graphics plus 3+ years of professional experience strongly preferred.
- 3+ years software development experience using C++.
- Experience with shading languages and/or shader APIs, such as RIS, RSL, OSL, Arnold, Clarisse, or VRay.
- In-depth knowledge of physically based rendering (Monte Carlo integration, BSDF models, light transport algorithms, etc.)
- Good understanding of core computer graphics skills (linear algebra, differential geometry, digital signal processing, etc.)
- Excellence in problem solving and balancing quick turnaround with long-term quality.
- Must be detail oriented and organized, possess strong communication skills, and be able to handle a variety of tasks in an efficient manner.

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