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3D Graphics Research Engineer

Mountain View, California, United States

DESCRIPTION

Geomagical Labs has an opening for an imaginative computer scientist, with strong 3D computer graphics and computer vision foundations, to join our core startup team.

In this role, you will develop algorithms and production software to render beautiful augmented imagery from HDR photography, geometry, synthetic object models, and photorealistic lighting. This position requires practical experience with state-of-the-art 3D graphics, lighting & relighting, and 2D & 3D computer vision. The role also requires strong scientific method, substantial hands-on software development experience, and an appreciation for visual aesthetics.

Note that this role is a scientist position, NOT a 3D graphics modelling or animation role, and it is NOT sufficient experience to have rendered models using off-the-shelf software or libraries. Candidates will need to be familiar with 3D graphics algorithmic foundations, and be capable of developing new algorithms from foundational theory.

REQUIREMENTS

- Strong academic foundations in 3D computer graphics (Ph.D. preferred).
- Strong academic foundations in 2D & 3D computer vision.
- Strong applied mathematics skills in linear algebra and numerical optimization.
- Hands-on experience with photorealistic rendering, BRDF, lighting, and relighting.
- Hands-on experience developing non-trivial OpenGL 3D apps.
- Hands-on experience with modern GPUs, pipelines, and shader programming.
- Experience successfully implementing algorithms from contemporary research papers.
- Strong C++ software development skills in Linux environments.
- Bonus points for computational photography experience (e.g. multi-lens imaging, synthetic focus, motion stabilization, super-resolution, light fields).
- Bonus points for ray tracing & photon mapping experience.
- Bonus points for experience in depth image based rendering.

- Bonus points for mosaicing, panorama compositing, novel-view synthesis experience.
- Bonus points for iOS mobile 3D graphics experience.
- Bonus points for WebGL experience.
- Appreciation for photography & visual aesthetics.
- Enthusiastic about seed-stage startups; entrepreneurial; comfortable with technical uncertainty.

BENEFITS

- Rare opportunity to join an early tech startup adventure when it is less than ten people, led by founders who've taken two startup teams through IPO.
- Substantial stock equity packages, of the sort only available to early startup employees.
- Opportunity to develop novel research and apply it to mass-scale real applications. Ability to publish, participate in scientific conferences, and collaborate with partners in academia.
- Headquartered in Mountain View, California, in the heart of the Castro Street downtown restaurant district; an easy walk from Caltrain and bicycling trails.