

Intuitive
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Computer Vision Scientist

Company: INTUITIVE
Location: Sunnyvale, California, U.S.A.
Department: Applied Research
Schedule: Full Time
Requisition ID: 182643

To apply, please visit: <https://careers.intuitive.com/jobs/182643?lang=en-us>

You can also send your resume directly to Omid.Mohareri@intusurg.com or Simon.DiMaio@intusurg.com

Company Description:

Intuitive designs and manufactures state-of-the-art robot-assisted systems for use in minimally-invasive interventions. These systems are revolutionizing the way in which surgery is being done and offer a unique platform that is being used routinely at hospitals worldwide for exploring the potential of digital surgery. Joining Intuitive means joining a team dedicated to using technology to benefit patients by improving surgical efficacy and decreasing surgical invasiveness, with patient safety as our highest priority.

Primary Function of Position:

The Applied Research group within Intuitive has an immediate opening in Sunnyvale, CA for a research scientist with focus on Computer Vision, Deep Learning and Image Analytics, contributing to new technology development in the area of 3D scene understanding/reconstruction and spatial AI systems for next-generation robot-assisted surgery platforms. This role is an exciting opportunity to join a newly formed team and contribute to its growth and it will give you an opportunity to test your knowledge in a challenging problem solving environment.

The successful candidate must excel in a high-energy, focused, small-team environment, be able to initiate and drive new research directions, and have a commitment to high research quality. A strong sense of shared responsibility and shared reward is required.

As part of the research team, immediate responsibilities include:

- Research, design and implement algorithms in deep learning for computer vision and image analytics
- Contribute to research projects that develop a variety of algorithms and systems in computer vision, image and video analysis
- Advance the state-of-the-art in the field, including generating patents and publications
- Develop prototypes of 3D recognition models that scale to large clinical datasets
- Develop prototypes of dense 3D reconstruction systems based on multi-view image sensors
- Contribute to building new clinical datasets and data pipelines
- Participate in integration of new ML/CV algorithms into existing and future robotic platforms

- Experiment with several users and clinical advisors to iterate prototype designs based on feedback and performance
- Develop new technologies and digital products to improve surgeon and team performance on robotic surgery platforms
- Support academic collaborations in related fields.

Additional responsibilities include:

- Contribute to multiple areas of research, including but not limited to the following:
 - Design and apply CV/ML algorithms to novel, surgical applications
 - Design/bring-up of novel sensing technologies
 - Characterize surgeon and team behavior and workflow to optimize new technologies.
- Establish strong academic collaborations across research disciplines.

Skill/Job Requirements:

Competency Requirements: (Competency is based on: education, training, skills and experience).

In order to adequately perform the responsibilities of this position the individual must have:

- Doctoral degree in computer science, electrical and computer engineering, or Master's degree with minimum (5) years industry experience developing computer vision and machine learning applications
- Strong understanding of machine learning: you should be familiar with the process (data collection, training, evaluation, and making iterative improvements) of building effective learning systems
- Strong hands-on experience with at least one of the main stream deep learning frameworks such TensorFlow, PyTorch, BLVC Caffe, Theano
- Strong hands-on experience with Python (proficiency), C/C++ (proficiency), Shell Script, Matlab
- Strong engineering practices, debugging/profiling skills, familiarity with multi-threaded programming
- Train machine learning and deep learning models on a computing cluster to perform visual recognition tasks, such as segmentation and detection
- Hands-on experience with GPU accelerated algorithms and implementations
- Hands-on experience with state-of-the-art models based on CNNs, RNNs, and LSTMs
- Excellent communication skills both written and verbal
- Interested in early phases of product exploration and iteration based on incomplete requirements
- Solid understanding of computer vision, machine learning, and deep learning algorithms and techniques is required
- Experience with visualization tools is a plus
- Self-starter and able to work in a collaborative and results-oriented environment
- Ability to travel domestically and internationally (5-15%)
- Able to view live and recorded surgical procedures.

We are an AA/EEO/Veterans/Disabled employer.

We will consider for employment qualified applicants with arrest and conviction records in accordance with fair chance laws.