Honda Research Institute USA (HRI-US) strives to be at the cutting edge of Honda's research and development activities. Driven by Honda's global slogan - The Power of Dreams - we pursue emerging technologies and bring them into reality to make people happy by engaging daily in highly scientific, pioneering work. We realize that dreams don't come from organizations, systems, or money. They come from people, and we seek people who have such a challenging spirit to join us.

How to Apply: Please send an e-mail to careers@honda-ri.com with the following:

- Subject line including the job number(s) you are applying for
- Recent CV with a list of publications
- One-page statement of previous research accomplishments

Candidates must have the legal right to work in the U.S.A.

Location: 70 Rio Robles, San Jose, CA 95134

List of Jobs: Follow the link for detailed job description

[Scientist] Language and Vision (P18F10)
[Scientist] Visual Scene Understanding (P18F11)
[Contract Position] Research Engineer (P18T01)
[Contract Position] Research Engineer: Robotic Manipulation (P19T01)

[Scientist] Language and Vision (Job Number: P18F10)

The position focuses on research and development of computer vision and machine learning algorithms toward analysis, understanding, interpretation, and captioning of traffic scenes from video and possibly other on-board vehicle sensors. The goal is to automatically generate natural language descriptions of scenes for next generation mobility systems with applications in advanced driving assistance and autonomous navigation.

Key Responsibilities:

- Research and development in video-based scene understanding and captioning of complex traffic scenes involving high degree of interaction between road users and the environment.
- Design, develop, and integrate software systems and architectures necessary to realize research prototypes
- Develop and evaluate metrics to verify reliability of proposed algorithms
- Participate in data collection, sensor calibration, and data processing
- Participate in ideation, creation, and evaluation of related technologies in various domains including traffic scenes and indoor robotics
- Contribute to a portfolio of patents, academic publications, and prototypes to demonstrate research value.

Qualifications:

- Ph.D. or M.S. in computer science, electrical engineering, or related field
- Strong familiarity with machine learning techniques pertaining to visual scene understanding / natural language processing
- Familiarity with scene modeling and interpretation using spatiotemporal graphs, scene graphs, graph convolution networks, or similar graphical modeling techniques
- Familiarity with automatic generation of natural language descriptions from images and videos and/or familiarity with visual question answering research domain preferred
- Experience in open-source Deep Learning frameworks such as TensorFlow or Pytorch preferred
- Highly proficient in software engineering using C++ and Python
- Hands-on experience in handling multi-modal sensor data preferred
- Strong written and oral communication skills including development and delivery of presentations, proposals, and technical documents
- Strong publication record in computer vision or machine learning

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[Scientist] Visual Scene Understanding (Job Number: P18F11)

The position focuses on research and development of computer vision and machine learning algorithms toward understanding of scenes and prediction of behavior for next generation intelligent mobility systems. The goal is to assess perceived risk in navigation by interpreting the detailed semantics of visual scenes through explicit modeling of objects/agents, their attributes, relationships to other objects/agents and the environment, intention, and future destination.

Key Responsibilities:

- Research and development of video-based computer vision algorithms that enable interpretation and understanding of complex traffic scenes involving high degree of interaction between road users and the environment for various driving assistance technologies

- Research and development of supervised and unsupervised mechanisms (e.g. attention) that identify "important agents" that potentially influence the ego-vehicle's future trajectory and the driver's decision-making process
- Design, development, and integration of software systems and architectures necessary to realize research prototypes
- Develop and evaluate metrics to verify reliability of proposed algorithms
- Contribute to a portfolio of patents, academic publications, and prototypes to demonstrate research value

Qualifications:
- Ph.D. or M.S. in computer science, electrical engineering, or related field
- Strong familiarity with machine learning techniques pertaining to visual scene understanding
- Familiarity with scene modeling and interpretation using spatiotemporal graphs, scene graphs, graph convolution networks, or similar graphical modeling techniques
- Experience in open-source Deep Learning frameworks such as TensorFlow or Pytorch preferred
- Highly proficient in software engineering using C++ and Python
- Hands-on experience in handling multi-modal sensor data preferred
- Strong written and oral communication skills including development and delivery of presentations, proposals, and technical documents
- Strong publication record in computer vision or machine learning

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[Contract Position] Research Engineer (Job Number: P18T01)

Honda Research Institute USA (HRI-US) in San Jose, California, is looking for engineers to work on the exciting future of new mobility domains. As part of these activities, the candidate will collect and/or conceive requirements in the areas of new airborne mobility, as well as design and implement software to support Honda in future business areas such as 3D mobility devices, space applications, or real time operation of future (urban) air traffic management.

This position offers opportunity to:

- Understand and analyze state of the art approaches in the areas of (urban) air traffic management
- Propose and develop solutions and address challenging problems encountered in ATM and UTM areas
- Collaborate with a global team of engineers and scientists to integrate your ideas on development of future mobility systems
- File patents and publish research results

Qualifications:
- M.S. in aeronautics, aviation, or related field
- 2-5 years hands-on experience in real-world applications
- Familiarity with US-ATM standards
- Be self-motivated and able to work well in cross-functional teams
- Strong communication skills including technical documentation, written reports, proposals, development and delivery of presentations and the ability to listen and communicate effectively

[Contract Position] Research Engineer: Robotic Manipulation (Job Number: P19T01)

Honda Research Institute USA, Inc. is looking for a research engineer to work on robotic manipulation. The focus of the research is to use vision and tactile sensor data to enable robots to robustly manipulate objects in unstructured environments using machine-learning approaches. As part of the position, the candidate is also expected to communicate with our collaborators–local and international— to formulate project requirements, study state-of-the-art algorithms, and implement novel algorithms to meet the project requirements.

Qualifications:

- Ph.D. or highly qualified M.S. candidate in computer science, electrical engineering, or related field
- Minimum 2-year experience in deep learning and other machine learning methods
- Minimum 2-year experience in the following is preferred: tactile sensing, manipulation, grasping, real robots, or physics engines such as MuJoCo and Bullet
- Good programming skills in either C++ or Python
- Experience in Robot Operating System (ROS)

Duration:

- 1-year