Position: 12-Week Internship in Machine Learning and Remote Sensing

Who we are

LIRNEasia (www.lirneasia.net) is a pro-poor, pro-market think tank based in Sri Lanka and active across emerging Asia-Pacific. We conduct in-depth, policy-relevant research on infrastructure industries including the digital sector. Our work often extends to other areas such as labour, education, agriculture, and disability. Since 2013, we have also expanded our work to utilize and understand the potential of increasing availability of data and modern machine learning techniques.

About the project

The availability of free, high-resolution satellite images has allowed researchers to apply cutting edge computer vision and machine learning techniques to understand our changing planet. These techniques - collectively known as "remote sensing" - are applicable in a wide variety of domains such as forest management, urban planning, crop forecasting, flood prediction etc. However, despite the promise of these techniques, research and applications of remote sensing in the developing world have been few and far between.

One major roadblock is the lack of accurate ground truth data needed to train machine learning algorithms and validate models. Given that the accuracy of machine learning models relies on a considerable amount of high-quality, carefully curated data, LIRNEasia wishes to lay the foundation for large-scale remote sensing analysis in Sri Lanka by developing these reference datasets and associated techniques.

In this regard, we are looking for two **full-time (40 hours per week)** interns to join us for a period of 12 weeks.

You will work with us to

- Expand on the already conducted literature review to develop a framework and a set of best practices for developing high-quality reference datasets for remote sensing
- Build a reference dataset for Sri Lanka, covering multiple classes of land cover, that will be useful in a wide variety of remote sensing applications.
- Implement several machine learning algorithms to test and benchmark the quality of the built dataset
- Visualize findings and build prototypes that illustrate the utility of the benchmarked dataset.

What we look for

- A recent graduate or an undergraduate (in their 3rd or 4th year of study) with a background in Computer Science/Engineering or a related field
- Demonstrable experience in working with the Python programming language
- Basic understanding of principles of machine learning. (Prior experience in training machine learning models will NOT be mandatory, but will be an added advantage)
- Strong written and verbal communication skills in English
- A genuine interest in applying computer science and machine learning techniques to the common good.

What's in it for you

- Competitive remuneration
- Stimulating work environment

- Enhancement of technical skills by applying them to real-life projects: developing reliable high-quality datasets for machine learning; training, debugging, validating and benchmarking different machine learning models; geospatial analysis techniques that are useful in many different domains
- Development of essential non-technical skills as a researcher, which will include, but are not limited to: reviewing and synthesizing literature; effectively communicating research findings; and collaborating with a team on technical projects.

To apply

- Email hr@lirneasia.net on or before 31st of March 2021
- SUBJECT: Internship in Machine Learning and Remote Sensing
- Detailed CV (no more than three pages)
- Phone/email contact details of two non-related references. Recent graduates should include an academic reference