

# VAISALA



## Make your summer count – Vaisala Giant Leap Internship

Is your ideal summer job made of meaningful opportunities? Would you like to kick-start your career in an innovative and international environment? We at Vaisala offer you a highly valued internship program that our previous generations of Giant Leapers describe as memorable, challenging and just a splendid experience in general. Do your future self a favor and apply now!

So if you are ready to work hard, do your best and take this leap with us, see our projects for the upcoming summer and pick yours! Learn more about the program on [Vaisala Giant Leap Facebook](#) and [web page](#) and submit your application before February 28, 2018. Come as you are as long as you are curious!

### Enhancing situational awareness of road weather conditions using traffic data.

#### Project Description

Many complex inter-relationships between traffic, weather, and road conditions exist. For example, inclement weather may reduce visibility and road surface grip thus reducing traffic speed while increasing traffic density over a given section of road. Alternatively, more vehicles traveling over a section of roadway may increase the road surface temperature and reduce the presence of ice on that road surface.

This project involves investigating the relationships between traffic data and road weather conditions. Weather, road condition, and third-party traffic data for a set of road sections will be acquired in advance of the project. Statistical and artificial learning/intelligence tools will be used to assess the quality of these data, then seek to fuse and mine valuable information from them. Methods using these results to estimate or predict road weather conditions to fill gaps between Road Weather Information System (RWIS) stations will be explored. Using these results to provide valuable data for the Route-Based Assessment (RBA) development project currently underway will also be investigated.

#### The goals of the internship include:

1. Assess the quality of third-party traffic data
2. Identify and assess relationships between weather, road condition, and traffic data
3. Develop methods to leverage these relationships to enhance road weather observations and/or predictive analytics
4. Present a proof-of-concept demonstration

#### Required Skills

- Solid understanding of data analysis, statistics and machine/deep learning (preferably applied to environmental data)
- Suitable proficiency in at least one programming language (Python, Java, and/or C++)
- Suitable proficiency with a machine or deep learning package (scikit-learn, TensorFlow, and/or Keras)
- The ability to communicate effectively orally and in writing to interact with technical and non-technical personnel

#### Preferred Educational Background

- Senior undergraduate through Ph.D.-level graduate studies in computer science, mathematics, statistics or engineering, with practical experience and/or coursework successfully completed in machine learning, deep learning, and/or artificial intelligence.

**Only resume submitted via our online applicant tracking system will be considered for this position. Please attach your resume and include salary requirements.**

**If interested apply on our website at**

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