Master Thesis - ML for estimating forest growth, quality and volume

About Maxar

Maxar Sweden serves the global professional geospatial market with world-leading 3D geodata, 3D visualization solutions, and 3D image processing solutions. We're on a mission to build the Globe in 3D—a revolution in GEOINT tradecraft—that offers decision makers and analysts the entire world in highly accurate, immersive 3D. Maxar's customers are varied and come from the telecommunications, emergency response, defense, and intelligence communities.

We are searching for the best and brightest to join a culture that is open and flexible, inclusive and positive. We offer opportunities for growth and the ability to work with talented people who make a real difference for our clients. Most of our research and development work is done in our Linköping office in Sweden, which employs about 80 engineers who work on cutting-edge technology to produce unparalleled, global, precise 3D geospatial data and software.

The Thesis

To predict or measure the volume of wood within a forest is very time consuming and today it's not possible on country or global scale. On the other hand, satellite imagery taken years apart could together tell something about growth between the images. Comparison between satellite images, together with a 3d surface model and a bare earth model, could then be used to estimate both quantity, volume and quality in a larger scale.

To use machine learning for estimations requires good training data. This could be solved by using existing deforestation data along with open-source data of vegetation/tree type/species.

Qualifications

Master of Science student with an interest in AI and image registration techniques.

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