Summer Internship - GNSS satellite visibility calculation

Are you looking for a summer internship where you can acquire valuable experience by being a part of the journey to create a world unique "Globe in 3D" based on satellite imagery? Would you like to learn and develop your skills while working with cutting edge technology together with highly competent colleagues in a global context? This might be the position for you!

Maxar is currently seeking summer interns to join our R&D center in Linköping, Sweden.

Our company
Maxar is a leading Space Technology and intelligence company. We unlock the promise of space to help governments and businesses solve problems on Earth and beyond.

Our solutions
Visualize, analyze, plan and decide—with dynamic 3D data. We build the Globe in 3D using the highest-quality imagery and our revolutionary 3D production process. Our products are sensor agnostic, require no ground control points, provide 50 cm resolution and maintain an absolute accuracy of 3 m.

Background
GPS, GLONASS and GALILEO are examples of different GNSS (Global Navigation Satellite System) which uses signals from several satellites to determine position. The ephemeris of these satellites are available for download and can be used to predict the position of the satellites.
Having the position of all the satellites makes it possible to calculate a visibility map over an area. How many satellites are visible from different positions at a specified time considering only direct line of sight?

The assignment
This summer job has two parts:
▪ Use the satellite ephemeris and surface model to calculate a raster of visibility values (number of visible satellites) over an area as an offline processing job.
▪ Can this be calculated and visualized in runtime using standard shadowing techniques?

Preferred qualifications
Master of Science student with an interest in 3D Visualization and C/C++ programming.

For more information about the internship contact
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