



# Computer Vision and Geospatial Software Engineer

## Description

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Sentera is a world leader in drone-based precision agriculture headquartered near Minneapolis, MN. Sentera builds specialized cameras, drones, and software to capture and analyze images of farm fields and provide actionable information to growers and researchers.

Sentera is seeking a software engineer with knowledge, experience, and interest in the fields of computer vision and geospatial processing, to apply these skills toward analyzing images of farm fields captured by drones.

You will develop software in a combination of C, C++, and Python to produce insights on the health of crops in farm fields within the realm of Precision Agriculture, the fastest growing segment of the drone industry. Software development may include computer vision, geospatial analysis, and machine learning. Examples of computer vision projects include identifying rows of crops, individual plants, missing plants, standing water, crop damage, anomalies, and weeds from wide area images, assessing plant health and identifying plant species from close-up images, and classifying images with machine learning. Examples of geospatial processing projects include extracting regional statistical data from images and associating it with geographic locations. You will also develop software infrastructure for running, automating, and deploying these algorithms at scale. In addition to software development, you will occasionally conduct flight tests, flying drones to collect imagery to support new algorithm development.

The ideal candidate is curious, analytical, and scientific minded, always demanding answers to the question "why?", even when it forces venturing beyond the candidate's core field. The ideal candidate is self-motivated and ambitious, eager to participate in developing an incremental plan for tackling a large technical problem, rather than waiting for a detailed to-do list.

## Duties

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- Develop software in a combination of C, C++, and Python to produce insights on the health of crops in farm fields within the realm of Precision Agriculture.
- Develop software using computer vision, geospatial analysis, and machine learning techniques.
- Work with the customer-facing software team to bring image analysis capabilities to our customers.
- Work with the agronomy team to develop high level algorithms that convert information extracted from images into recommendations for farmers.
- Fly drones to collect imagery to support new algorithm development.



## Qualifications

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- Bachelor's degree in one of the following fields, or related
  - Computer Science
  - Computer Engineering
  - Electrical Engineering
  - Mathematics
  - Physics
  - Programming/Software Development
  - Statistics
- This position is open to new grads, as well as candidates with 0-10 years of industry experience.
- FAA Part 107 Remote Pilot Certification required. If not currently certified, the candidate must attain FAA Part 107 Certification as a Remote Pilot within 60 days of beginning employment. Certification is easy, and can be attained by studying approximately ten hours and passing a two hour written exam at a small local airport. Sentera will reimburse the exam fee.

## Skills

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The following is a list of preferred skills. While all beneficial, not all are required.

- C/C++
- Python
- Image Processing
- Computer Vision
- OpenCV
- Geographic Information Systems (GIS)
- Geospatial Data Processing
- gdal/ogr
- Farming
- Remote Sensing
- Deep Learning
- Convolutional Neural Networks
- Machine Learning
- TensorFlow

## Details

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Travel: Yes, not to exceed 10%

Worksite location: Main Office in Richfield, MN. Applications to work remotely will not be considered.

FLSA and Job Status: Exempt, Full-Time

## What we Offer

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Full benefit package:

- 100% employee covered medical insurance.
- Additional plan options for family medical coverage at a competitive monthly rate.
- Dental, vision, HSA, FSA, Dependent Care options available.
- 401(K) with a generous 4% company match.



Time off:

- 120 hours PTO at hire
- All U.S. federal holidays are paid time off holidays

## **How to Apply**

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Apply online at: [www.oasisdeg.com](http://www.oasisdeg.com) using the following username and password:

Username = sentera

Password = applicant

Hiring Manager's Email = [HR@sentera.com](mailto:HR@sentera.com)