



Crop Modeler

Location: San Carlos, CA

Company: Heritable Agriculture

U.S. work eligibility: Required

We're looking for an innovative Crop Modeler to join our team at Heritable Agriculture. In this role, you'll be at the heart of our mission to optimize crop performance under diverse environmental and agronomic conditions. You'll take the lead in integrating complex crop management data into our state-of-the-art phenotype prediction platform. If you're passionate about agronomy, skilled in software development, and excited by the challenge of using AI to solve real-world agricultural problems, this is the perfect opportunity for you.

What You'll Do

Your primary responsibility will be to develop and implement sophisticated models that account for how different management practices—like irrigation, fertilization, and planting density—impact crop performance. You will be a key bridge between raw agricultural data and actionable predictive insights.

- **Data Harmonization:** Employ AI tools and machine learning algorithms to ingest, clean, and structure varied datasets (e.g., grower logs, sensor data, weather patterns, soil types) into a unified format for model training.
- **Model Development:** Design, build, and validate crop models that simulate growth under diverse management and environmental conditions.
- **Platform Integration:** Collaborate closely with our software engineering and data science teams to seamlessly integrate your crop management models into our core phenotype prediction platform.
- **In-Silico Experimentation:** Run virtual experiments to predict how different management strategies will affect crop yield and other key traits, providing valuable insights for our breeding programs.
- **Analysis & Validation:** Continuously test model accuracy against real-world field data, refining algorithms to improve predictive power and deliver reliable results.

Who You Are

You are a multidisciplinary expert with a deep understanding of the intersection between agriculture, data science, and software engineering.



Required Qualifications:

- A Ph.D. and at least three years of industry experience in Agronomy, Crop Science, Agricultural Engineering, Soil Science, or a related quantitative field, or an M.S. with additional years of experience.
- Demonstrated expertise in agronomy and crop physiology, with a strong understanding of how management practices affect plant growth and development.
- Proven experience with crop simulation models such as DSSAT, APSIM, AquaCrop, or custom-built equivalents.
- Strong proficiency in software development, particularly in Python or R, with experience in building and deploying data-driven applications.
- Hands-on experience with AI and machine learning frameworks (e.g., Scikit-learn, TensorFlow, PyTorch) for data analysis and modeling.
- A team player who loves to collaborate and is driven by mission and impact.
- Ability to relocate to the San Francisco Bay Area and work in the office at least 4 days per week.

Preferred Skills:

- Experience working with large-scale, heterogeneous agricultural datasets.
- Familiarity with geospatial data analysis and remote sensing.
- Strong communication skills and a collaborative mindset, with the ability to work effectively in an interdisciplinary team.
- A creative and results-oriented approach to problem-solving.

To Apply:

- Send an email with your application materials to crop-modeler@heritable.ag
- Review of applications will begin on October 31, 2025