Hunter R. Merrill

Principal Data Scientist
Columbus, OH
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Biography

I am a results-oriented technical lead committed to solving real-world problems with data science. I have 8+ years experience in predictive modeling and 3+ years experience leading cross-functional teams, and extensive experience with advanced statistical & machine learning methods including Bayesian modeling, deep learning and probabilistic forecasting. I have authored multiple [peer-reviewed publications](#) and [patents](#).

Experience

Climate LLC / Bayer

Principal Data Scientist, Sustainability Modeling Team / SEPTEMBER 2024 - PRESENT

I lead agile teams to deliver ML-enabled tools and software. I manage projects and am responsible for influencing the strategic direction of the business unit and for defining quarterly milestones and two-week deliverables, and for working with commercial teams to align software development with business goals.

– Improved field boundary management experience by developing and deploying a QGIS plugin.
– Automated practice change evidence verification by developing and deploying image- and text-classification neural network models.
– Explored efficient and compliant AI tools by fine-tuning and in-house hosting agent- and RAG-based LLM frameworks for natural language queries of carbon market registry documentation.

Lead Data Scientist, Environment Modeling Team / NOVEMBER 2020 - SEPTEMBER 2024

I led agile teams to deliver predictive models for crop diseases. I was responsible for defining scientific strategy, quarterly milestones and two-week deliverables, and for working with commercial teams to align scientific research with business goals.

– Enabled crop protection insights by developing and deploying a deep learning gaussian process model for jointly forecasting multiple diseases.
– Improved data collection efficiency by defining a data valuation strategy & hiring two contractors to execute on it.
– Identified and addressed the risks of collecting more of the same data across programs.

Senior Data Scientist, Environment Modeling Team / APRIL 2018 - NOVEMBER 2020

– Enabled in-season wheat disease forecasts by developing probabilistic deep learning models.
– Improved crop yield models by creating deep learning embeddings of high-dimensional environmental data.
– Mentored an intern to develop probabilistic deep learning models to forecast soybean yield over long lead times using.

Geospatial Statistician, Seeds & Placement Team / MAY 2017 - APRIL 2018

Identified crop nutrient deficiencies in soil by developing predictive statistical models using satellite imagery.

Education

University of Florida

PhD, Agricultural and Biological Engineering (Statistics Concentration) / MAY 2014 - MAY 2018
MStat, Statistics / AUGUST 2012 - MAY 2014

Mississippi State University

BS, Mathematics / AUGUST 2008 - MAY 2012

Service	**University of Florida Agricultural & Biological Engineering Advisory Board (3-year term, 2022-2025).** Responsible for advising on the department's mission statement and strategy, as well as ensuring curricula result in successful placement of graduates.

Tech Stack	**Programming:** Python, Bash, Javascript, HTML, CSS, R, C++, SQL, Spark, Git **Machine Learning**: Tensorflow, TF Probability, Sagemaker, Scikit-Learn **Publishing / Presenting**: LaTeX, MS Office, Google Suite

Papers & Patents

Selected Papers

– Forecasting urban household water demand with statistical and machine learning methods using large space-time data: A comparative study. DOI 10.1016/j.envsoft.2018.01.002

– Spatiotemporal additive regression model selection for urban water demand. DOI 10.1007/s00477-019-01682-2

– Semiparametric regression models for spatial prediction and uncertainty quantification of soil attributes. DOI 10.1007/s00477-016-1337-0

Selected Patents

– Systems and methods for rendering disease data for agricultural fields through improved interfaces. Provisional.

– Systems and methods for treating crop diseases in growing spaces. Provisional.

– Digital modeling and tracking of agricultural fields for implementing agricultural field trials. Patent no. US-20200272971-A1

– Systems and methods for use in application of treatments to crops in fields. Patent no. US-20230035413-A1

– Automatic prediction of yields and recommendation of seeding rates based on weather data. Patent no. US-20200042890-A1

Hobbies

I build guitar effects pedals and I dabble in lutherie. I also enjoy hiking, indoor rock climbing and hanging out with my cats. I've placed 7th out of 92 in a Kaggle competition. I've recently gotten into endurance training and I keep a statistics-heavy training journal. I also developed a web app to schedule and plan training sessions around bad weather and air quality.