Hunter R. Merrill

Principal Data Scientist | AI Solutions Architect
Columbus, OH
hmerrill12@gmail.com

Updated: 18 Dec 2025
My web-based CV can be found at hrmerrill.github.io.

Biography

I am an outcome-driven Technical Program Lead with a passion for bridging the gap between advanced AI and global development. I have 8+ years experience in data science and 4+ years experience leading cross-functional teams to deliver scalable solutions for agriculture and public health. I have 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

Taimaka

Program Improvement Fellow / SEPTEMBER - OCTOBER 2025

Improved pediatric patient outcomes and reduced malnutrition treatment cost in Gombe, Nigeria.

- Built a facial recognition model with 99% true acceptance and rejection rates and 97% top-3 accuracy.
- Built and deployed a mobile app for contactless on-device biometric identification.
- Built and automated a backend system to update biometric templates.
- Collaborated with field teams and local stakeholders to pilot biometric identification, ensuring ethical and effective implementation in low-resource settings.
- Discovered a cohort of previously unknown repeat patients and performed analyses to improve treatment protocols for patients who relapse and return to treatment after initial recovery.

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. I am currently leading the development of a farmer-facing, SAM-based field boundary segmentation tool.
- 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 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.

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

- Created 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.

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

Taimaka (May 2025 - Present).

- Reducing nonresponse and mortality rates of malnourished Nigerian children with predictive model development, deployment and automation.
- Quantifying impact by assisting with cost-effectiveness analyses.

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

Skills

Tech Stack
Dev: Python, Bash, Javascript, HTML, CSS, SQL, Git
ML: Tensorflow, TF Probability, Scikit-Learn
AI Tools: Cline, Antigravity, Copilot

Management
Project management, stakeholder management, AI strategy, evidence-based influence

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 treating crop diseases in growing spaces. Provisional.
- Digital modeling and tracking of agricultural fields for implementing agricultural field trials. Patent no. US-20200272971-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 built a web app for managing a portfolio of charitable donations.