

**Research Project:** Georgia cotton variety recommender: a producer-oriented dashboard online tool  
**Faculty Mentor:** Dr. Bastos, College of Agricultural and Environmental Sciences ([lbastos@uga.edu](mailto:lbastos@uga.edu))  
**Area of Expertise:** Agronomy, nutrient management, remote sensing, statistical programming, data science  
**Student Background:** Agronomy, agricultural engineering, computer science, data science, programming  
**Faculty Website:** <https://leombastos.github.io/bastoslab/>

Dr. Leo Bastos is looking for REEU students with background and interest in agronomy, digital tools, and statistical programming (preferably R/Python) to work on a summer project focused on processing and deploying large-scale soils, weather, and agronomic data sets at the state level. The objective of this project is to create an online dashboard tool that Georgia cotton producers can access and explore data on cotton yield and fiber quality across the state, and receive variety recommendations based on their local conditions. REEU students will work directly with Dr. Bastos and his team and will develop data science skills like data scraping, processing, visualization, and deployment. Students will have the chance to assist with other projects involving the use of drone and satellite remote sensing for crop nutrient management and predictive cotton fiber quality models. Students will have the opportunity to visit many of UGA research facilities and to network with other researchers on campus for professional development.



**Research Project:** State-wide weather data interpolation for digital agriculture applications  
**Faculty Mentor:** Dr. Bastos, College of Agricultural and Environmental Sciences ([lbastos@uga.edu](mailto:lbastos@uga.edu))  
**Area of Expertise:** Agronomy, nutrient management, remote sensing, statistical programming, data science  
**Student Background:** Agronomy, agricultural engineering, computer science, data science, programming  
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Dr. Leo Bastos is looking for REEU students with background and interest in agronomy, digital tools, and statistical programming (preferably R/Python) to work on a summer project focused on processing and analyzing spatial-temporal weather data at the state level. The objective of this project is to identify the best model among different machine learning algorithms to interpolate weather point-data across the state of Georgia, and make the interpolated maps available online through an open data portal. REEU students will work directly with Dr. Bastos and his team and will develop data science skills like data scraping, processing, visualization, machine learning model training and evaluation, and model selection. Students will have the chance to assist with other projects involving the use of drone and satellite remote sensing for crop nutrient management and predictive cotton fiber quality models. Students will have the opportunity to visit many of UGA research facilities and to network with other researchers on campus for professional development.

