Agricultural Economics and Agribusiness Internship

Using Big Data, Models and Statistics in Farm Operations and Rural Communities

Interns will learn how to

- Ascertain the specific attributes of “big data” datasets (geography, time, sector, etc.) to properly construct efficient data models that can efficiently process big data for further analyses
- Develop best practices for visualizing “big data” in basic visual reports and dashboards, and other descriptive products and strategies
- Identify appropriate hypothesis such that both generalizable and targeted statistical inference can be drawn for agriculture and rural places in the US writ large as well as inference from big data for specific farm operations and rural communities

Qualifications

1. Minimum Qualifications: Rising juniors and seniors from LSU and partner institutions with at least a 3.0 GPA and a major or minor in Agricultural Business or related field are most competitive. Second-year students and those with a minimum 2.5 GPA are also eligible and encouraged to apply; Minimum 60 hours completed or in progress towards degree program.

2. Preferred Qualifications: Recommended minimum grade of “B-” or better in the following courses or their equivalents is preferred: MATH 1431; EXST 2201 or ISDS 2001 or equivalent; AGEC 2003 or ECON 2000 or ECON 2030 or equivalent. Competence in using Microsoft Excel, PowerBI, Tableau, ArcGIS or other data visualization software is desired. A basic understanding of databases such as Microsoft Access, Microsoft SQL Server or equivalent will be helpful in the successful candidate maximizing the learning objectives of the internship.

Primary Contact / Advisor: J. Matthew Fannin, William H. Alexander Professor

Maximum Interns Needed: 2

Weeks 1–3
Daily Contact: Andrew Garcia, Information Technology Manager, LSU AgCenter
Location: Knapp Hall, LSU Campus, Baton Rouge, Louisiana

Primary Tasks:

- Assist Mr. Garcia in identifying major connecting dimensions of LSU AgCenter “big data” with external and secondary “big data” sources for agriculture and rural communities.
- Assist writing a two to four page “How-to” guide on connecting major LSU AgCenter served agricultural data sources to federal and state government agricultural and rural data sources.
Weeks 4–6
Daily Contact: Kurt Guidry, Gilbert Durbin Professor
Location: Martin D. Woodin Hall, LSU Campus, Baton Rouge, Louisiana
Primary Tasks:
- Attend Farm Bureau Annual Conference with Dr. Guidry
- Develop four draft online parish dashboard interfaces that could be applied to LSU AgCenter Annual Summary of Agriculture Publication data
  Create Data Model linking common tables in LSU AgCenter Annual Summary of Agriculture source data
- Link Data Model to user interface of two of the draft dashboard interfaces and publish the dashboards online

Weeks 7–10
Daily Contact: J. Matthew Fannin, William H. Alexander Professor
Primary Tasks:
- Develop a two draft Business Intelligence Dashboards identifying the top industrial sectors and their economic contributions for rural (Micropolitan and Non-Core) parishes in Louisiana
- Assist Dr. Fannin develop a data model using big data tools such as Application Program Interfaces (APIs) in order to draw custom queries of federal government data servers.
- Link data model to the Draft Business Intelligence dashboards and publish dashboards online