Project Summary:
NutraMaize is seeking an intern to participate in a Research Experience for Undergraduates (REU) funded through a National Science Foundation (NSF) Small Business Technology Transfer Research (STTR) Grant. The aim of this project is to develop more nutritious Orange Corn hybrids suitable for large scale commercial applications in the U.S. This specific internship will focus on the development of a database to support the overall success of the project through better data collection and organization, enabling better informed and more timely breeding decisions. Most of the work will be performed at Purdue University facilities including Lilly Hall, the attached greenhouses, and the Agronomy Center for Research and Education (ACRE) farm. This internship will be directly supervised by NutraMaize’s R&D Manager and advised/mentored by Purdue collaborators Dr. Ankita Raturi, Professor of Ag Informatics and Dr. Torbert Rocheford, Professor of Plant Breeding and Genetics.

Company Description:
NutraMaize is on a mission to transform the United States’ largest staple crop – corn – into a platform for delivering better nutrition on a population-wide scale. NutraMaize’s innovation is a set of unique varieties of non-GMO Orange Corn. The vibrant orange color comes from significantly higher levels of carotenoids (2-4x more than yellow corn), the same natural antioxidant pigments that give carrots their color and health-benefiting reputation. NutraMaize’s Co-Founder Dr. Torbert Rocheford of Purdue University originally participated in the development of Orange Corn as part of an international humanitarian effort called HarvestPlus to help address malnutrition in Sub-Saharan Africa, where it is currently grown in more than 10 countries. Now, NutraMaize is bringing the nutritional benefits of Orange Corn to Americans whose eye health stands to benefit from increased carotenoid intake. To date, NutraMaize has made Orange Corn available in the U.S. through a line of premium milled products marketed under the brand “Professor Torbert's Orange Corn” which pays homage to the company’s cofounder and his lifelong dedication to improving the world through science and agriculture. In the future, NutraMaize seeks to bring the benefits of Orange Corn to American’s through widely consumed corn-based foods and corn-fed animal products, such as eggs. For more information on the story behind Orange Corn visit NutraMaize.com and ProfessorTorberts.com.

Core Responsibilities:
Manage the development and implementation of a plant breeding database in conjunction with NutraMaize employees and Purdue collaborators.

- Help design and implement database architecture.
- Help develop low-code apps (e.g. FileMaker, Macros, Airtable, Tableau) to streamline data collection by student workers.
- Develop procedures for integrating carotenoid data from High Performance Liquid Chromatography (HPLC) and Protein Data from Near Infrared Spectroscopy (NIR).
- Develop procedures for integrating yield data into the database.
- Collect various types of data and integrate collected data into the database.
• Assist research team with pollinations, harvest, and the evaluation of harvested ears of seed.
• Engage in a variety of research activities, including interdisciplinary poultry science studies.
• Perform other miscellaneous teamwork tasks to help promote an efficient and productive research operation.
• Summarize and present research efforts and results at College of Agriculture scientific poster networking events once per semester.

Qualifications:

• Current undergraduate college student.
• Experience with computer programming.
• Experience with Microsoft Excel.
• Willingness to learn new programming skills.
• Experience with database programming a plus (e.g. SQL, MongoDB, Access, etc).
• Familiarity with data collection and management a plus.
• Detail-oriented and strong organizational skills.
• Excellent, team-oriented communication skills.

Work Hours and Payment:

The internship will begin in May 2023 and end in April 2024. During the summer of 2023 the internship will be full-time (40 hours/week), during the school year the internship is part time (8-12 hours/week). The selected candidate will receive an educational stipend of $8,000 disbursed throughout the project period on an hourly basis.

Application:

Please submit a C.V. and a brief cover letter explaining your interest in and qualifications for the REU Data Science Intern position to NutraMaize CEO, Evan Rocheford (evan@nutramaize.com). Applications will be considered on a rolling basis until a suitable candidate is identified.