Externship Descriptions

Technology and Mathematical Modeling

John Brosius
John Deere ADV Lab
Moline, IL

At John Deere ADV Laboratory, they analyze equipment to see if there are any inefficiencies. If a certain part on a machine is continuing to break they can re-engineer the part, and test it in the lab to determine what the weaknesses are. They then come up with solutions to fix the problem so no more machines have that problem. John designed a software application to help them analyze data much faster. By making customizable software they will be able focus their energy other places and make less mistakes when comparing data types.

Julie Cuvelier
Doerfer/TDS Automation
Waterloo, IA

Julie's project involved the Organizational Chart of three locations of TDS Automation in Waverly, Waterloo, and Cedar Falls, Iowa. The task was to complete a formal job description in report format for all positions in the local branches of TDS. The project was from ground level where a template was shared to complete. This included skills, abilities, competencies, education levels, training certifications, and technical skills for each position in this organization. There was a report for each position filed with TDS for over 40 positions.

Lindsey Gosse

MA Ford

Davenport, IA

Lindsey's project was to build a program to estimate shipping weights for the tools they make, given the dimensions and type of tool. She began on the floor to get an idea of the mass of the material used to make the tools, then worked on formulas to estimate the volume of drills and endmills with different flutes and gathering some data from the tools that were ready to ship. From there, Lindsey tweaked the formulas and continued to build her sample sizes to ensure as much accuracy as possible. By the end of the summer, M.A. Ford hoped to have a running program that can help their customers know approximate shipping weights and costs for the tools before they order.

Kathryn Hafner

State Hygienic Lab

Coralville, IA

At the State Hygienic Lab, this summer Kathryn developed metrics to measure success in the laboratory's response to a disease outbreak. This involved interviewing people involved with an outbreak, then recording and analyzing the results. She also analyzed other sets of data using data analysis programs such as R and SPSS.

Angie Hanson
Accumold
Ankeny, IA

While working at Accumold, Angie contributed math and data analysis skills primarily to quality control and manufacturing departments in order to increase efficiency, use current software more effectively, analyze trends, and set up experiments to identify causes of defects and inefficiency. She also worked with design and fabrication of molds used for the manufacturing process and participated in the scrum methodology used to evaluate policies and procedures. This position required Angie to expand her math understanding, use technology, and collaboratively solve complex problems on a daily basis.

Kathleen McNeal
The Weitz Company
Des Moines, IA

Kathleen's main Externship project with Weitz Corp. is to help create an efficient system to inventory all technology within the corp. office and field offices. This has consisted of researching their existing system that aids in storing technology data. She also has been meeting with technology support staff to collaborate on how the system works now. The end goal is to come up with a system that will be used by all offices which will in turn save the company time and money.