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Re: Syngenta, Pipeline Data Scientist

To Whom It May Concern:

I was excited to hear about the Pipeline Data Scientist position through Scott Stelpflug on Twitter. My interests lie at the intersection of quantitative genetics, genomics, breeding, and data science, which I believe make me an ideal fit for this position. I received my B.Sc. in Animal Science from Texas A&M University in 2016 and my Ph.D. in Genetics from the University of Missouri this fall. Currently, I am a post-doctoral researcher with Dr. Jared Decker's animal genomics group at the University of Missouri.

I've had the opportunity to work in an industry breeding setting as an intern with the American Angus Association, the largest beef cattle breeding organization in America. Besides solidifying my career goals, my time at the Association helped me to develop a strong applied quantitative genetics background. I combined data from my graduate research with data on hand at the Association to develop a breeding value for environmental-adaptability. During development and deployment, I communicated daily with farmers & ranchers as well as industry allies to facilitate data collection, management, and transfer. I also worked closely with R&D, information systems, and marketing teams within the Association. The theoretical knowledge and interpersonal skills I gained will make me a valuable member of the team at Syngenta.

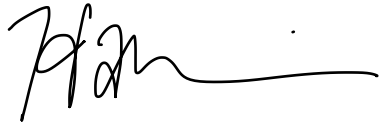
I have had the opportunity to work on other projects spanning multiple study species and disciplines, united by a focus on research reproducibility. In all of the projects I've been a part of, iterative reporting using R Markdown and other similar tools has helped me communicate results to coworkers, collaborators, and stakeholders. Version control using Git and analysis pipelining using `snakemake` have ensured that any results I've generated can be quickly replicated or altered when needed. Much of my work has also involved the collation of data from multiple sources and at large scales. For example, I combined a dataset of > 10,000,000 records with historical climate data and USDA Drought Monitor reports gathered using publicly available APIs to summarize differences in animal performance between environments. In another project, I organized and analyzed publicly available whole-genome sequence data from world-wide cattle breeds and related species. Working at multiple scales taught me that good data management is essential to downstream success. This was particularly true in my position as the coordinator of a large, collaborative project involving industry partners and farmers from across the nation. In this position, I built pipelines to programmatically inventory, clean, and verify farmer-collected data in various formats and states of completeness. Together, my experiences working with large and "messy" datasets afforded me intuition and attention to detail that I'll bring to my role at Syngenta.

My skills have been augmented by involvement in the data science community online and in-person. I've attended data science-focused conferences and workshops, including useR! Conference and RStudio Conference, where I attended the "Big Data in R" workshop focused on accessing and analyzing remotely stored data. I've also facilitated data science training opportunities for other members of the community, including helping as a teaching assistant at useR! Conference and organizing a workshop for students in my graduate program. These activities have kept me current on new methods and opportunities.

My graduate experience led me to realize that I most enjoy data management, data exploration, and optimizing the intermediate steps of computational research in a team setting. Above all, the breadth of

my work has made me a flexible and independent learner, which will allow me to adapt to new projects. Thank you for your time and consideration. I look forward to hearing from you and would be happy to answer any further questions.

Sincerely,
Harly Jane Durbin

A handwritten signature in black ink, appearing to read 'HJD', followed by a long horizontal flourish.