ANDRADA OLTEANU: FINDING A PASSION FOR TRANSFORMING DATA INTO ACTIONABLE INSIGHTS

Kaggle Grandmaster makes sense of huge data sets and delivers more value with Z by HP

"I'm actually shocked to find myself working in data science," confesses Andrada Olteanu. She explains that growing up in Romania, she was always fascinated by the arts and spent a lot of time drawing and reading, and had a strong aversion to math. When she graduated from high school, the thought of choosing a field of interest for the rest of her life felt intimidating and more than a little outlandish. However, as a foreshadowing of the analytical prowess starting to rise up in her, Olteanu made a list of all possible bachelor's degrees and, by process of elimination, landed on statistics.

In her courses at the University of Economic Studies in Bucharest, Olteanu taught herself to like statistics and then gradually learned to love it as she began to see how data and art could work together. She says, "I found that I liked data visualization, the process of preparing and analyzing information, then explaining it in a visual way so that people could really understand it."

ANDRADA OLTEANU, BUCHAREST, ROMANIA

- Data Scientist, Endava

- Bachelor of Science, Statistics, University of Economic Studies in Bucharest

- Master of Science, Data Science and Analytics, Queen's University Belfast

- Transitioned from Data Analyst to Data Scientist

- Kaggle Notebooks Grandmaster, Datasets and Discussion Expert

- Skilled in deep learning, machine learning, data reduction techniques, preprocessing, visual analytics, behavioral measurement, electronic design automation

- Enjoys exercise, meditation, cooking and painting

As a Z by HP Global Data Science Ambassador, Andrada Olteanu's content is sponsored and she was provided with HP products.

While earning her undergraduate degree, Olteanu worked full-time as a data analyst at Avon Cosmetics where her passion for transforming data into insights really took root. She says, "Taking data and organizing it, turning it into simple, clear, valuable, actionable insights was very satisfying. I realized that I had trusted my intuition and it led me down the right path."

She decided to continue her education with a deeper dive into data science and was accepted into a Master of Data Science and Analytics Program at Queen's University Belfast in Ireland. Intimidated by the idea of living and learning in a foreign country,

for everyone, from beginner to expert." She started with courses, lots of hands-on practice and by participating in discussions. With her newfound skills and her master's degree in hand, Olteanu took an internship at Allstate Insurance, where she focused on text and network sentiment analysis.

She then accepted a position as a data scientist at Endava, a company that helps accelerate organizations' ability to take advantage of new business models and market opportunities through dynamic platforms and intelligent digital experiences.

Olteanu says that Endava was a big step for her because moving from a data analyst

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Andrada Olteanu, Z by HP & NVIDIA® Data Science Global Ambassador

Olteanu took a Udemy course on data science to give her a foundation for success. The teacher recommended practicing her craft on Kaggle, the world's largest online data science community. Olteanu says, "You might think I'm a paid spokesperson for Kaggle, but I'm not. It's simply the greatest platform to learn data science and there's a place

role to a data scientist position required 80 percent new and different skills. She works on information extraction projects, including Natural Language Processing (NLP) and image processing, as well as machine learning classification/regression models. And she remains very active on Kaggle. Now a Notebooks Grandmaster, Olteanu believes that

enterprises are overlooking a rich recruiting ground in Kaggle. "Many companies don't know about Kaggle or know only very little. The people in this community are working on real-world data science problems every day, they have a portfolio of work that demonstrates their expertise, and simply by being on the platform, they are demonstrating their passion for data science and their commitment to learning. Who wouldn't want to hire someone like this?"

The power to do more

As a Z by HP & NVIDIA® Data Science Global Ambassador, Olteanu uses the HP Z8 G4 Tower Workstation with an HP Z38C 37.5-inch diagonal curve display monitor to tackle big data problems and experiment more.

Right out of the box, she recalls, "I was nearly crying tears of joy to see the pre-loaded software stack. Clearly designed specifically for data scientists, it has everything you need for the optimum environment, eliminating all of the frustration and exhaustion associated with installing software—so you can start the magic immediately!"

The Z8 gives Olteanu so much power and memory, she has nicknamed it "The Beast." She says, "Z by HP makes it easier to do my work by having go-to packages and configurations readily available in a secure and managed environment, combined with the ability to explore multi-billion record datasets."
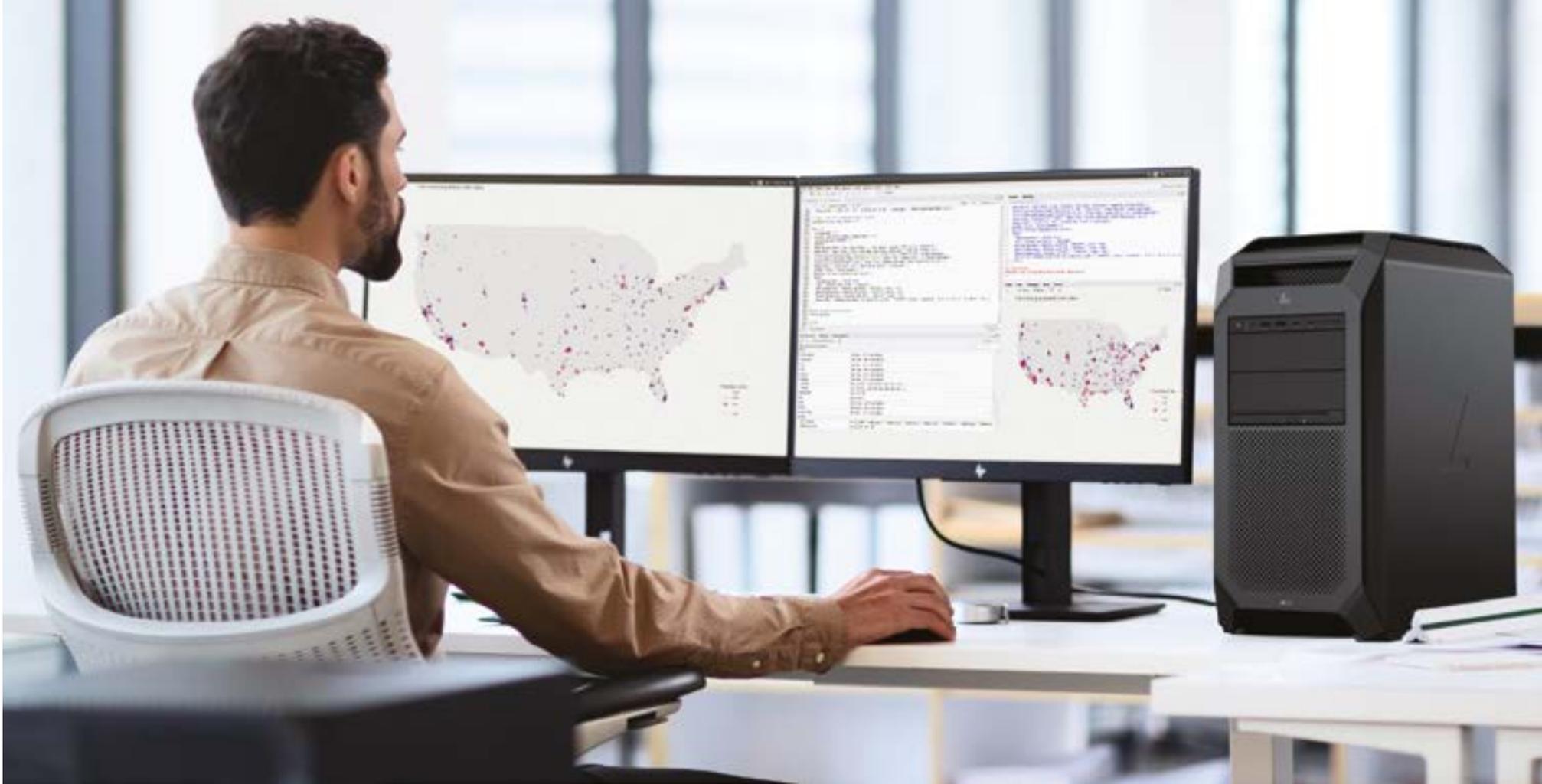
Kaggle competition: Shopee

She points to her experience with a recent Kaggle competition. Shopee, the leading

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e-commerce platform in Southeast Asia and Taiwan, hosted a contest that asked data scientists to apply machine learning skills to build a model that identifies the same products. The objective was to provide a solution for retailers to avoid misrepresentations and other issues that could come from conflating two dissimilar products. The results could support more

accurate product categorization, help shoppers find the best deals, and uncover marketplace spam. Olteanu ran her project on the Z8 and says, "The Z by HP is making me lazy! It handles processing and analyzing even huge data sets with ease and does it at least two to three times faster than doing it on Kaggle. And, I don't have to waste time and energy coding for separate batches

because the Z8's memory can handle the entire data set."

Kaggle competition: Riid Labs

For another competition, Riid Labs, an AI solutions provider delivering creative disruption to the education market, challenged Kagglers to create algorithms for modeling student knowledge over time. The goal was to

accurately predict how students will perform in the future. Riid will utilize the algorithms to build a better and more equitable model for education, enabling any student with an Internet connection to enjoy the benefits of a personalized learning experience, regardless of where they live.

Olteanu says that this project was the first time she used hard-core RAPIDS, a suite of

THE POWER OF Z:

Ability to explore multi-billion record datasets

Cost-efficient compared to working in the cloud

Processes at least two to three times more quickly, and faster hyperparameter tuning

Slashed modelling time from 30-40 seconds down to instantaneous results

Improves employee engagement, development and loyalty

open-source software libraries for executing end-to-end data science and analytics pipelines entirely on graphics processing units (GPUs). She says, "There were over 100 million rows, and the GPU acceleration made the pre-processing super-fast and easy. A few others were using CPU libraries and it was very slow and not as accurate. They had to plot data almost randomly because they were not able to process the whole dataset at once."

She says that the Z by HP GPU slashed modelling time, from taking 30-40 seconds on Kaggle to instantaneous results. She highlights that hyperparameter tuning (tweaking of models to improve answer accuracy) and grid search, are also much faster compared with doing it on Kaggle.

Olteanu believes that the Z by HP will give enterprises a competitive edge. She explains, "Turning to the cloud for machine learning and deep learning is very costly. And one thing we don't talk about much is mistakes. With any learning process, mistakes will be made. Having to halt a pipeline and go back to fix or add something costs money when you are running in the cloud. If you have high performing, designed-for-data-scientists equipment at hand, you don't have to worry about the learning curve."

She also points out that providing employees with high productivity tools like the HP ZBook Studio will help companies to not only enable employees to work from anywhere, but will also help them better engage with employees who have a real passion for data science and are working on honing skills during their free time.

A more inclusive future

Olteanu is excited about the myriad ways that data science will change and enhance our lives. This starts with Virtual Reality as a natural platform for collaborative data visualization and visual exploration, enabling users to interact with data and each other in a shared virtual space, to autonomous vehicles that will utilize data to keep humans safer and more comfortable.

But, regardless of the industry or application, she feels strongly that AI will need to be very deliberate about not propagating bias—even unconscious bias.

She remembers her internship at Allstate: "They were so strict about not injecting any bias into incident reports. No gender, race, religion, nothing that could possibly influence a fair outcome," she says. Because algorithms follow rules taught by data, they inherit the unconscious biases of the humans creating them. And, because machine learning is designed to predict the results users want, inherent bias is further validated and even deepened.

Olteanu says, "As data scientists, we can work together carefully to make AI not just smarter and faster but also equitable and more inclusive."

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