



## RUCHI BHATIA: CURIOUS MIND, BIG AMBITIONS UNLEASHED

Z by HP accelerates Kaggle Grandmaster's efforts to solve the world's biggest problems and build a better future for everyone





If the word 'competitive' came with a visual, it might just be Ruchi Bhatia's picture. Born and raised in Mumbai, India, she admits she has been highly competitive and academically driven since childhood, consistently holding first rank in school from an early age. She began participating in international math competitions in school and took up coding as a hobby at 13.

For her undergraduate college studies, it was only natural for her to take on the toughest challenge. She explains, "I chose computer engineering as a major and like most students, I wanted to explore the various domains to see what interested me. I found that I was so passionate about all of them that I simply selected the most demanding arena: Data Science."

## AT A GLANCE

### RUCHI BHATIA, MUMBAI, INDIA

- Bachelor of Technology, Computer Engineering, K.J. Somaiya College of Engineering
- Pursuing Master's Degree in Information Systems Management, Carnegie Mellon University
- 2X Kaggle Grandmaster (Datasets and Notebooks) and Discussion Master
- Shopee - Price Match Guarantee competition, COVID-19 mRNA Vaccine Degradation Prediction competition
- Guest speaker, University of Oxford
- Enjoys dancing, driving on scenic routes, photography, and chess



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

Bhatia learned about Kaggle, the world's largest online data science community, almost a year ago. "During the pandemic, I started working on a project to look at various streaming platforms and conducted an analysis on popularity by age group. When I heard about Kaggle, I discovered a whole new world. I gained visibility for my project and I also started participating in competitions. I spend roughly two hours a day on Kaggle and learn something new every single day."

actionable insights—is the driving force behind business. After all, the faster and better the insights, the more competitive a company can be. But as datasets get larger, unraveling meaningful insights can be time-consuming and costly. As a Z by HP & NVIDIA® Data Science Global Ambassador, Bhatia has had the opportunity to use the HP Z8 Desktop Workstation with an HP Z38c Curved Display, and the HP ZBook Studio Mobile Workstation in her daily work. HP Z solutions

**“WHILE TODAY DATA SCIENCE IS DEFINITELY A MALE-DOMINATED SPACE, I HAVE FOUND THAT THE WORK SPEAKS FOR ITSELF AND Z HELPS ME DO MY BEST WORK, FASTER. I CAN GET TO INSIGHTS THAT I AM VERY CONFIDENT ABOUT, AND THAT CAN MAKE A TANGIBLE IMPACT ON A REAL-WORLD PROBLEM, MORE QUICKLY. IT'S AN EMPOWERING FEELING.”**

Ruchi Bhatia, Z by HP & NVIDIA® Data Science Global Ambassador

She made her mark quickly: presently she is the 6th Grandmaster ever in the datasets tier—as well as a notebooks Grandmaster. She says, “Consistently capturing trends in the data industry has been my source of motivation throughout my journey.”

#### **Top performance for heaviest workloads**

One major component of that ambition is to enhance, expand, and advance data science.

Today, data science—the practice of developing predictive models to derive

offer low latency for direct capture and real-time analysis of data, GPU-acceleration for industry-leading processing speed of massive amounts of data, and rapid cleaning for faster, higher accuracy insights.

Since data cleaning increases accuracy and thereby improves the value and speed-to-insight, data scientists like Bhatia can spend the bulk of their time, often more than 60 percent, purely on preparation. Z by HP workstation GPU acceleration helps her be more productive and efficient during this



## SOLUTION HIGHLIGHTS:

### HP Z8 G4 1125W PSU

- Dual Gold Intel® Xeon® 6234 3.3 GHz 8C - CPU
- NVIDIA® RTX 6000 - GPU
- 96GB (6x16 GB)
- Ubuntu 20.04
- Z by HP Data Science Software Stack

### Z38C CURVED DISPLAY

- 37.5-inch display
- 4K UHD

### HP ZBOOK STUDIO G7

- Approx: 4lbs/ 2 Kilos
- i9 – 10885H processor
- 32GB RAM
- NVIDIA® RTX 5000 (16 GB VRAM)
- 15.6 inch display
- Ubuntu 20.04
- Z by HP Data Science Software Stack

## PRE-LOADED, POPULAR DATA SCIENCE TOOLS, TURN-KEY & READY OUT OF THE BOX:

Z by HP Data Science Software Stack

Learn more:

Z by HP Data Science Brochure

phase. She appreciates that the GPUs have upwards of 5,000 cores; multiple cores allow the Z by HP to perform multiple tasks at the same time. She comments, “You don’t have to wait for modelling. It’s a 10X speed-up over a CPU.”

For one project, Bhatia had to scrape and clean an enormous data set with a run time of 36 hours and she couldn’t trust a laptop to be unattended for so long. She decided to run it on the Z8 but confesses she was nervous since data science workloads can overshoot the limits of technology and it’s common to lose the progress made. Bhatia says, “I let it run, and checked on it from time to time, fully expecting a bug or some sort of problem to crash it, or perhaps for it to overheat, but the Z8 workstation handled it well and finished the job perfectly.”

### Processing is no longer a bottleneck

She shares another example that highlights the power and speed of Z by HP: Bhatia needed to edit a video for a webinar and initially started on her personal gaming laptop because it already had the software installed. She says, “The laptop just couldn’t handle it—it said it would take 11 hours to render, but I had a meeting the next morning. I installed the software on the Z8 workstation and it took just 50 minutes to render. Plus, the display monitor made the process quick, easy, immersive and beautiful.”

Bhatia particularly values how the Z solutions don’t constrain her in any way. She says, “With Z by HP, there are no time constraints, or how many experiments I can run. It enhances my ability to multitask.” Plus,



“I DO WANT TO BE A ROLE MODEL FOR YOUNG WOMEN AND HAVE ALREADY BEGUN MENTORING STUDENTS FROM MY COLLEGE. HP HAS A STRONG AND VOCAL POSITION ON DIVERSITY, SO I FEEL THAT MY AMBASSADORSHIP REINFORCES WOMEN’S IMPORTANT ROLE IN ADVANCING DATA SCIENCE.”

Ruchi Bhatia, Z by HP & NVIDIA® Data Science Global Ambassador



the pre-loaded software stack meant that Bhatia could dive right into workflows, with no hassle and no time wasted on installation. And the ZBook Studio lets her model on the go with a light, compact mobile workstation that keeps her productive from anywhere.

Bhatia says, “The Z products are amazing. It’s fast and easy to process even the largest data sets and to model in significantly less

time. It’s easy to make the switch to RAPIDS, with only very few code changes required, which translates to end-to-end speed improvements. Since the entire pipeline is on the GPU, the projects run very smoothly enabling lightning-fast iterations.”

Z solutions are also highly secure, which as Bhatia points out, is becoming more critical to companies of all sizes. “With so many

people working remotely now, security is a bigger concern than ever before. I have had to connect to workstations in other parts of the world and have found Z by HP to be very secure.” That’s due to the fact that the workstations come with a built-in HP Security Stack that includes HP Sure Click, Windows Defender, HP Sure Start, HP Sure Run and HP Sure Recover for secure data workflow. These

products provide benefits such as minimizing downtime, quickly and easily reimaging devices, protecting applications and keeping critical processes running, and self-healing BIOS.

#### **A brighter future**

What does Bhatia see on the frontier for data scientists? The ability for AI to learn any intellectual task. “Today, we can make AI to



## KAGGLE: LEARN, COMPETE, CHANGE THE WORLD

- Over 6 million registered Kagglers solve data science problems, gain access to powerful tools and resources, and compete for prizes.
- There are five tiers: Novice, Contributor, Expert, Master, and Grandmaster. Currently, there are 211 Grandmasters.
- Kaggle has run hundreds of competitions, from improving gesture recognition to improving the search for the Higgs boson at CERN. Competitions have resulted in successful projects including furthering HIV research and traffic forecasting. The learnings that result from the competitions and shared on Kaggle are being transferred into enterprise workflows to transform how business works.

Visit [www.kaggle.com](http://www.kaggle.com) to learn more.

win at chess, just like a human. But we humans are good at more than one thing. AI will learn to do the same—to develop multiple skills and be able to do several, even many, things well,” she predicts. And of course, “continued and accelerated automation of everything conceivable is inevitable.”

She is optimistic about data science as an equalizing force—and the power of HP to accelerate that process. She says, “While today data science is definitely a male-dominated space, I have found that the work speaks for itself and Z helps me do my best work, faster. I can get to insights that I am very confident about, and that can make a tangible impact

on a real-world problem, more quickly. It’s an empowering feeling.”

Ruchi has other aspirations, too. “I do want to be a role model for young women and have already begun mentoring students from my college. HP has a strong and vocal position on diversity, so I feel that my Ambassadorship reinforces women’s important role in advancing data science.”

She loves that data science brings people from across the globe, across industries, and across backgrounds together to solve the world’s most pressing concerns and improve life—and Bhatia is determined to help lead the way. What could be more ambitious than that?

## THE POWER OF Z:

Slashed 11-hour rendering time to 50 minutes

10X faster speed of processing

No constraints in time or how many experiments can run

Workflows are easy to switch, with little re-coding necessary

Model on the go



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