

Kelly H. Zou, Senior Director in the Global Real World Evidence (GRWE) Center of Excellence (COE) and the Group Lead of its Methods & Algorithms team at Pfizer Inc, and Barclays Quant Alumna

Tell us about your career with Barclays

As I strolled past Hudson Yards, a blossoming new development area in Manhattan, with soaring mirrored skyscrapers and a glorious skyline, my mind can't help but racing back to Canary Wharf and an expansive view of the River Thames and crossing bridges.

I recall vividly that several talented colleagues at Barclays Capital, ranging from quantitative analytics, high-frequency trading, fixed income, currencies, commodities to risk assessment, took time away from their hectic schedules to interview me.

My role at Barclays was Associate Director of Rates in the Quantitative Analytics group within Global Markets. As a quant, or known as a rocket scientist in the front office, I enjoyed exploring and deriving novel mathematical ideas with my teammates and colleagues. A typical day was spent on developing fast but accurate algorithms for foreign exchange (FX) trading, which would be a tradeoff between the two aspects, and writing codes that would start from a pilot version to a production grade. Early in the morning, my colleagues and I examined and anticipated the rates that were fluctuating, with their variabilities tied to global events and other factors. The quant team was tightly integrated and embedded in front office trading, which was associated with BARX, an award winning e-trading platform that provides our clients both in-depth liquidity and cutting-edge infrastructure.

My colleagues and I dealt with price-setting and market-making based on high-frequency FX data. We leveraged major databases to develop trading and hedging algorithms. Furthermore, because of the heavy volume and high frequency of massive data, we developing prototypical algorithms using a particular data segment, conducted back-testing, and extended to complex scenarios for generalizability and predictive ability. When several colleagues passed by my desk, situated near a printer, they saw a grin on my face as I was buried under “coding and debugging!”

I have developed along-lasting friendship with colleagues from various countries and functions, with diverse cultural backgrounds. I still keep in touch with a few, especially since there tended to be few women technologists and data scientists in the quant group.-Despite the dynamic pace, a magnificent city, and enduring friendships, the reason for my leaving was like fuzzy logic since it was unforgivingly the midst of the historical financial crisis. I was offered a position elsewhere as Director of Statistics in Evidence Based Strategies (EBS). Plus, the lure of Manhattan was certainly palpable. Later, I was promoted to be a Senior Director of Statistics in the Statistical Center for Outcomes Research and Aggregate Data (SCORAD) before my current role in the Global Real World Evidence (GRWE) Centre of Excellence (COE).

In my view, it is never too late to learn, to be inspired, and to inspire. The mentality of ‘never say never’ may also give a healthy prospective and a can-do attitude. When I was at university student, my mathematics professor and advisor, who was a little intimidating female professor, asked if I had ever thought of studying Statistics. Honestly, as a math-major with a Minor in Physics, it was not something I had remotely contemplated at all. In fact, my main hobby has always been oil painting, and one of my Barclays colleagues said that our work space could use some colors and impressionism besides Bloomberg news. My secondary interests were astronomy and probability. That professor’s words may me curious about probability due to the uncertainty in the universe, as well as predictive accuracy using machine learning methods. Over

time, I have still kept my passion in artistic pursuits, as well as intrinsic and extrinsic development opportunities. For example, for 'paying it forward', I have been active as a current mentor and as a former mentee through my current company's MentorMatch system, the Global Asian Alliance, the Latino Colleague Resource Group, and professional societies.

Earlier this year, I was lucky to be one of the managers supporting the collaborative effort, Women in Technology and Entrepreneurship in New York (WiTNY), which has been a successful and welcoming internship programme for female university students. This year alone, there were over 46 participating companies throughout New York City. The WiTNY programme is an initiative between City University of New York (CUNY), Cornell Tech, and industry with the mission of facilitating, encouraging, and enabling a significant increase in the participation of women in both higher education and entrepreneurship in computer science and related technology fields in New York. I have talked about and shared my experience as a woman in the field of data science in the era of big data via several features, hosted by the American Statistical Association, Wiley, Forbes and Humans of Analytics, etc.

Back to my current job, I am Senior Director and Group Lead of Methods and Algorithms, in short, the 'M+A' team, in the GRWE COE at Pfizer. I joined from the Statistics group, and naturally, I could sense both sides of the collaborative business from equations to decisions. I appreciate the knowledge on microeconomics, finance, informatics, quantitative analytics and data science that I have gained at Barclays because there are foreseeable and unforeseeable elements that influence each country's policy and each person's well-being. For example, when I was the client partner and had the opportunity to co-lead a Real World Evidence Asian Network, the regional needs and cultural differences posed unique challenges and future opportunities.

What do you feel an Alumni programme can offer

The Global Alumni Programme that Barclays has launched and maintained is a wonderful and heartwarming vehicle to connect former and current colleagues. I am thoroughly moved by the words, 'once a colleague, always a colleague' on the alumni programme's [website](#). I am on my own university's Alumni Board of Directors, and there can be many an alumna or an alumnus who would like to share joys or sorrows with whom he or she has worked with or known well in the past.

I acutely sense such as need through mentorship, and a professional network with unbiased support is important and effective. I am a team facilitator in a Peer Coaching Circle of the Asian Executive Leadership Forum in my current company. I am also a team sponsor for the Asian Leadership Forum's Advance the Business Challenge programme.

Such a programme not only can share technical interests, but can also create meet-ups for those to connect with long-lost teammates and to expand the horizon through professional interactions. Moreover, such a programme can grow exponentially if there are mutual interests and a wide spectrum of life experiences. While at Barclays, I attended recruiting and outreach events via outreach efforts to university students. There were considerable women who expressed interests, curiosities, and aspirations to be in the fields of quantitative analytics and algorithm development. It would be intriguing and inspiring for former colleagues to share the things that worked well or might not work well for them.

Disclaimer

Kelly H. Zou, PhD, ASA Fellow, PStat[®], is an employee of Pfizer Inc. The views and opinions expressed in this interview are her own and do not necessarily reflect those of Pfizer Inc. Her [professional biography](#) is available via the ASA.

Biography

Kelly H. Zou is a Senior Director in the Global Real World Evidence (GRWE) Center of Excellence (COE) and the Group Lead of its Methods & Algorithms team at Pfizer Inc. She is a Fellow of the American Statistical Association (ASA) and is the Chair of the ASA Statistical Partnership Among Industry Academia and Government (SPAIG) Committee and Health Policy Statistics Section (HPSS). She is on the Editorial Board of jointly the Royal Statistical Society (RSS) and the ASA. Previously, she was Associate Professor at Harvard and Associate Director at Barclays Capital. She grew up in Shanghai, China and has lived in Honolulu, Boston, London, and New York.