Perspectives on recurring challenges faced by ML product teams

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ABSTRACT

In 2011, Marc Andreessen of a16z famously said "Software is eating the world"[1], and in 2017, Jensen Huang, CEO of NVIDIA, has further extended that adage to say "AI is going to eat the software"[2]. Fast forward to today, we see that Machine Learning has become ubiquitous – with the advent of foundational models and readily available APIs built on top of them, a whopping 35% of companies around the world are already leveraging machine learning in some capacity [3]. As the adoption of machine learning continues to grow across the industry, we hypothesize that a few challenges are bound to surface that most machine learning product teams will eventually navigate. In this talk, we plan to discuss key recurring challenges that we've faced while leading teams that are building machine learning products and offer our insights in effectively addressing them.

For instance, 1) How do we build roadmaps such that they balance both product and science goals? 2) How do we adapt our roadmap to the evolving developments in industry and academia? 3) How do we set goals when ML driven product development is experimental in nature, and doesn't always offer certainty in KPI improvements? 4) How do we define success in qualitative and quantitative terms? 5) How do we ship ML products without losing customer trust?

We will use our unique experience gained in leading machine learning oriented product teams over the last decade across organizations such as IBM Watson, Amazon Alexa, Twitter Cortex and currently Etsy Search to help draw parallels to recurring patterns of challenges we've observed during our tenure. We will also share anecdotes from our experience both from the engineering and product management perspectives to further shed light on how we approached these key problems and have attempted to solve them.

POTENTIAL DISCUSSION POINTS

1) Stages of ML product development and lifecycle management
2) Evolving a traditional software engineering team to tackle ML problems
3) Avoiding Maslow's hammer while building your product roadmap
4) Effective strategies for setting OKRs while accounting for innovation risk
5) Building transparency with customers when ML isn't perfect from the get go

AUTHOR BIOS

Likhitha Patha is currently a Staff Product Manager at Etsy leading Search for International Markets. Prior to Etsy, she spent the last 10 years building products at Twitter (Cortex Applied ML Signals), Amazon (Alexa AI NLU), and Microsoft (Visual Studio, Intune, Intune for Education). She served as a 2020 White House Presidential Innovation Fellow to help strengthen the tech stack in the U.S. government. She received her bachelors in Electrical Engineering from Virginia Tech, and her masters in Computer Science from Georgia Tech.

Nisarga Markandaiah is currently an Engineering Manager at Etsy leading Search for International Markets. Her team is responsible for building and maintaining the retrieval and ranking machine learning systems that power Search experiences for all users outside of the US. Prior to Etsy, she worked at IBM's Watson AI organization on enterprise machine learning solutions. She received bachelors in Computer Science from PES University, India and her masters degree in Computer Science from the Language Technologies Institute, Carnegie Mellon University.

COMPANY PROFILE

Etsy is the global marketplace for unique and creative goods. It's home to a universe of special, extraordinary items, from handcrafted pieces to vintage treasures. In a time of increasing automation, it's our mission to keep human connection at the heart of commerce. We help our community of sellers turn their ideas into successful businesses. Our platform connects them with millions of buyers looking for an alternative—something special with a human touch, for those moments in life that deserve imagination.

REFERENCES

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[3] *IBM - United States* (2022) *IBM Global AI Adoption Index 2022*. Available at: https://www.ibm.com/downloads/cas/GVAGA3JP (Accessed: 02 June 2023).