Estera Kot, Ph.D.

Chief Technology Officer, Clouds on Mars
Former Principal Product Manager, Microsoft

Leadership | Data and AI Governance | Ethics | Healthcare & Energy | Research

***Abstract*—Estera Kot is Chief Technology Officer at Clouds on Mars and a former Principal Product Manager at Microsoft, where she owned the Apache Spark runtime across Azure Synapse Analytics and Microsoft Fabric. She created the Native Execution Engine, a vectorized runtime four times faster than open-source Spark, and migrated 25,000 customers to Fabric. She holds a Ph.D. in Computer Science with distinction, a U.S. patent in big data processing, and fifteen peer-reviewed publications. She is an Assistant Professor at Kozminski University and ranks among Poland's Top 100 Women in AI.**

***Index Terms*—Apache Spark, Microsoft Fabric, Azure Synapse Analytics, Native Execution Engine, data engineering, artificial intelligence, cloud architecture, technical leadership.**

I. Executive Leadership

DR. Estera Kot is Chief Technology Officer at Clouds on Mars, a Microsoft and Databricks partner delivering data and AI across Europe and the Middle East. She owns technical strategy, engineering delivery, and the architecture behind the firm's most strategic accounts in healthcare, insurance, and enterprise data platforms.

II. Platform Engineering at Microsoft

She built infrastructure that millions now rely on to act on data. As Principal Product Manager at Microsoft, she owned the Apache Spark runtime across Azure Synapse Analytics and Microsoft Fabric, the engine beneath their analytics, machine learning, and Copilot workloads. She created the Native Execution Engine, a vectorized Spark runtime that runs four times faster than open-source Spark, built with Intel, Meta, and IBM, and shipped to every customer at no added cost. She migrated 25,000 Synapse customers to Fabric. She automated the program that moves 30,000 customers between engine versions every six months. She led cross-functional teams of nearly 300 engineers, designers, and stakeholders, and worked hands-on with Coca-Cola, Pepsi, Chevron, BP, G42, and UiPath.

Executive profile compiled October 2026.
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III. Career Trajectory

Her path runs through Intel, Sony, Citi, Procter & Gamble, and Microsoft. At Procter & Gamble she introduced Apache Spark and Delta Lake in 2018, years ahead of the market, and held personal accountability for the SQL Data Warehouse that predated Azure Synapse Analytics. She has shipped production systems across semiconductors, consumer goods, banking, and cloud. That range gives her architecture decisions an operator's discipline rather than a theorist's.

IV. Research and Academia

She earned a Ph.D. in Computer Science with distinction from the Warsaw University of Technology, applying deep learning to brain-tumor diagnosis. She holds a U.S. patent in big data processing and has authored fifteen peer-reviewed papers. She is an Assistant Professor at Kozminski University, where she teaches Python programming, and teaches in the postgraduate program AI and Innovation in Healthcare at Łazarski University. She has lectured as a guest at UCLA and SGH Warsaw School of Economics. In 2022 she created the postgraduate program Applications of Cloud Technologies in Data- and AI-Based Solutions at the Warsaw University of Technology and sits on its program council. She creates and hosts Fabric Espresso, an 89-episode technical series, and speaks at FabCon Europe.

V. A Perspective on Building AI

Her stance is uncompromising. The engineer who builds these systems cannot outsource moral responsibility to regulators or ethicists. Ethics are not a compliance layer added after the architecture is fixed. They live in every optimization target, every default, every choice about what the machine rewards and what it ignores. The most consequential AI does not fail visibly. It succeeds silently, absorbing human judgment into optimization loops that carry deep civilizational assumptions about what knowledge is, who holds authority, and what it means to think. She designs as if that responsibility were hers alone. Because it is.

Selected Recognition

- **2026** — Laureate, *Polka XXI wieku*, Innovation and New Technologies.
- **2023** — Top 100 Women in Cloud Computing in Poland.
- **2022** — Top 100 Women in AI in Poland, Top 3 for AI Leadership.
- **2021** — Winner, Microsoft Global Hackathon, Healthcare.