Data Science and The Future of Compute

“Know thy data, know thyself.”

Jared Dame
Director of AI and Data Science HP
Data:
The Fourth Paradigm of Science...

...& Foundation of Digital Business

"Without big data analytics, companies are blind and deaf, wandering out onto the web like deer on a freeway."

Geoffrey Moore, author of many articles and books, among them Crossing the Chasm
Data and Future Compute

...Consider the fact that the total number of businesses worldwide is approaching 200 million!

>1 Trillion Business Challenges and Problems exist and are growing daily
Data the renewable and continuously growing resource!

- 2.5 quintillion bytes of data are created daily
- By 2020 Every person will generate an excess 1.7MB per second
Data Science Types or Personas

**Data Science 1**
- Data Strategy
- Overall Technical Requirements
- Data Collection, Format, Stored
- WS Buyer

**Data Science 2**
- Algorithm Development Lead
- Subject Matter Expert
- Software Recommender
- WS Recommender

**Data Science 3**
- Business Intelligence Software
- Visualization
- Story Telling / Data Product

**Data Science 4**
- Your Citizen Data Scientist
- Gatekeep for the DS Process
- Sometimes Management
- Business Process Owner

CORES AND MEMORY IMPACT PERFORMANCE

CPU Processing
(Traditional)
8 Cores

GPU Processing
5,000 Cores

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FUTURE OF DATA SCIENCE
Data Science is the Matrix of the Future
“Know thy data, know thyself.” – Neo-Plato

AI Virtual Gatekeeper (2030)
The virtual data “gatekeeper”

The Future of AI
Technologies Converge

Everything Connected 2025

Edge Intelligence

Integrated AI (Cloud, Edge, Server, AutoML)

GPU Accelerated DS 2019

Traditional AI 2019

Traditional IoT

IoT / Edge
**OPPORTUNITY**

**CPU-only Data Science**
Analyzing data within hours per cycle

**GPU Accelerated Data Science**

*Single HP Z8 w/GPU > 10 legacy CPU servers*
Analyzing data within milliseconds per click
Z DATA SCIENCE WORKSTATION

provides performance, partnerships and security advantages over other data science solutions.
Ecosystem

**Enterprise Platforms**

- **BEST: Z8 Data Science WS**
  - >4 Billion row databases
  - NVIDIA Quadro RTX8000 x 2 (96 GB GPU)
  - Intel Xeon 18 core CPU x 2
  - 384 GB RAM
  - HP Z Turbo Drive NVMe x 4

- **BETTER: Z4 Data Science WS**
  - >2 Billion row databases
  - NVIDIA Quadro RTX8000 (48 GB GPU)
  - Intel Xeon 8 core CPU
  - 192 GB RAM
  - HP Z Turbo Drive NVMe x 4

**GPU Accelerated**

- **BEST: Z38c Curved Wide Screen**
  - Ideal display for Data Science workflows
  - Panoramic immersive experience
  - 4K wide resolution
  - USB-C with 65 watts of power delivery

**Data Science SW Stack**

- **OS Certified**
  - Red Hat
  - Ubuntu
  - Windows 10

- **Data Science Companies**
  - SAS
  - IBM
  - Databricks
  - Kinetica

- **Data Science Tools & Infrastructure**
  - Anaconda
  - NVIDIA
  - Docker
A SUPURB DATA SCIENCE SOLUTION FOR ALL INDUSTRIES

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The scientific revolution has not been a revolution of knowledge. It has been above all a revolution of ignorance. The great discovery that launched the scientific revolution was the discovery that humans do not know the answers to their most important questions.

-Yuval Noah Harari ~Sapiens~
Thank You for Listening!