HEALTH INNOVATION DRIVEN BY COMPUTING

🔍 NVIDIA.

Abdul Hamid Al Halabi WW Business Development Lead, Healthcare & Life Sciences

MICCAI - 2016

AI IS EVERYWHERE



Transportation

Healthcare

Society



DEEP LEARNING ACROSS HEALTHCARE



Life Sciences & Drug Development Genomics

Medical Imaging & Electronic Health Records

NVIDIA DGX-1 Al Supercomputer-in-a-Box



170 TFLOPS | 8x Tesla P100 16GB | NVLink Hybrid Cube Mesh 2x Xeon | 8 TB RAID 0 | Quad IB 100Gbps, Dual 10GbE | 3U - 3200W

DGX STACK

Fully integrated Deep Learning platform



Instant productivity – plug-and-play, supports every AI framework

Performance optimized across the entire stack

Always up-to-date via the cloud

Mixed framework environments --containerized

Direct access to NVIDIA experts

NVIDIA DIGITS

Interactive Deep Learning GPU Training System



developer.nvidia.com/digits

DIGITS FOR MEDICAL IMAGING



DETECTION

SEGMENTATION

CLASSIFICATION

FUTURE OF DEEP LEARNING



Data

Complex Architectures

Real Time Everywhere

GPU Roadmap



CUDA BOOSTS DEEP LEARNING PERFORMANCE 5X IN 2 YEARS

Caffe Performance



AlexNet training throughput based on 20 iterations, CPU: 1x E5-2680v3 12 Core 2.5GHz. 128GB System Memory, Ubuntu 14.04



DEEP LEARNING PERFORMANCE 60X IN 3 YEARS



60x Faster Training in 3 Years

Performance

AlexNet training throughput on: CPU: 1x E5-2680v3 12 Core 2.5GHz. 128GB System Memory, Ubuntu 14.04 M40 bar: 8x M40 GPUs in a node, P100: 8x P100 NVLink-enabled







JOEL DUDLEY MOUNT SINAI Associate Professor and Director

GPU TECHNOLOGY CONFERENCE RONALD SUMMERS NIH RADIOLOGY Senior Investigator & Director Andrew Beck Harvard Associate Professor & Director

DEEP LEARNING EMPOWERING HEALTHCARE October 26 - 27, 2016 | Washington D.C.

See the latest AI research in healthcare - from genomics and medical imaging to drug discovery. You'll learn about the state of the art deep learning techniques used in healthcare.

GPU TECHNOLOGY CONFERENCE

May 8 - 11, 2017 | Silicon Valley | #GTC17 www.gputechconf.com

Submission Deadlines:

Talks:November 20, 2016Posters:January 15, 2017



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See how GPU technologies are creating amazing breakthroughs in important fields such as deep learning



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