Mission

Advance the field in the areas we choose to do research

Transfer the best research results into Microsoft's products

Ensure the future of Microsoft and the computing field
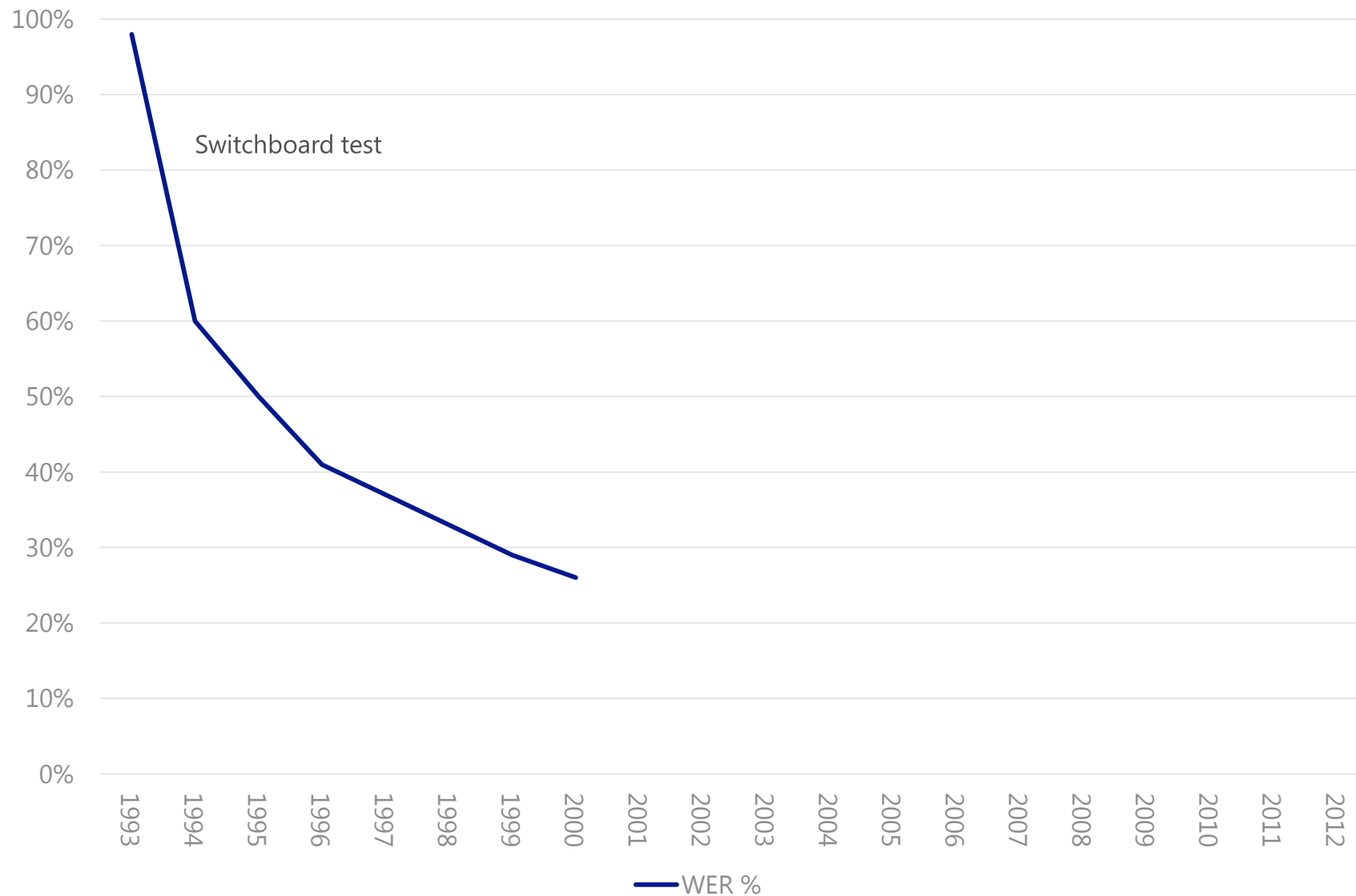
Speech recognition progress

Speech recognition progress
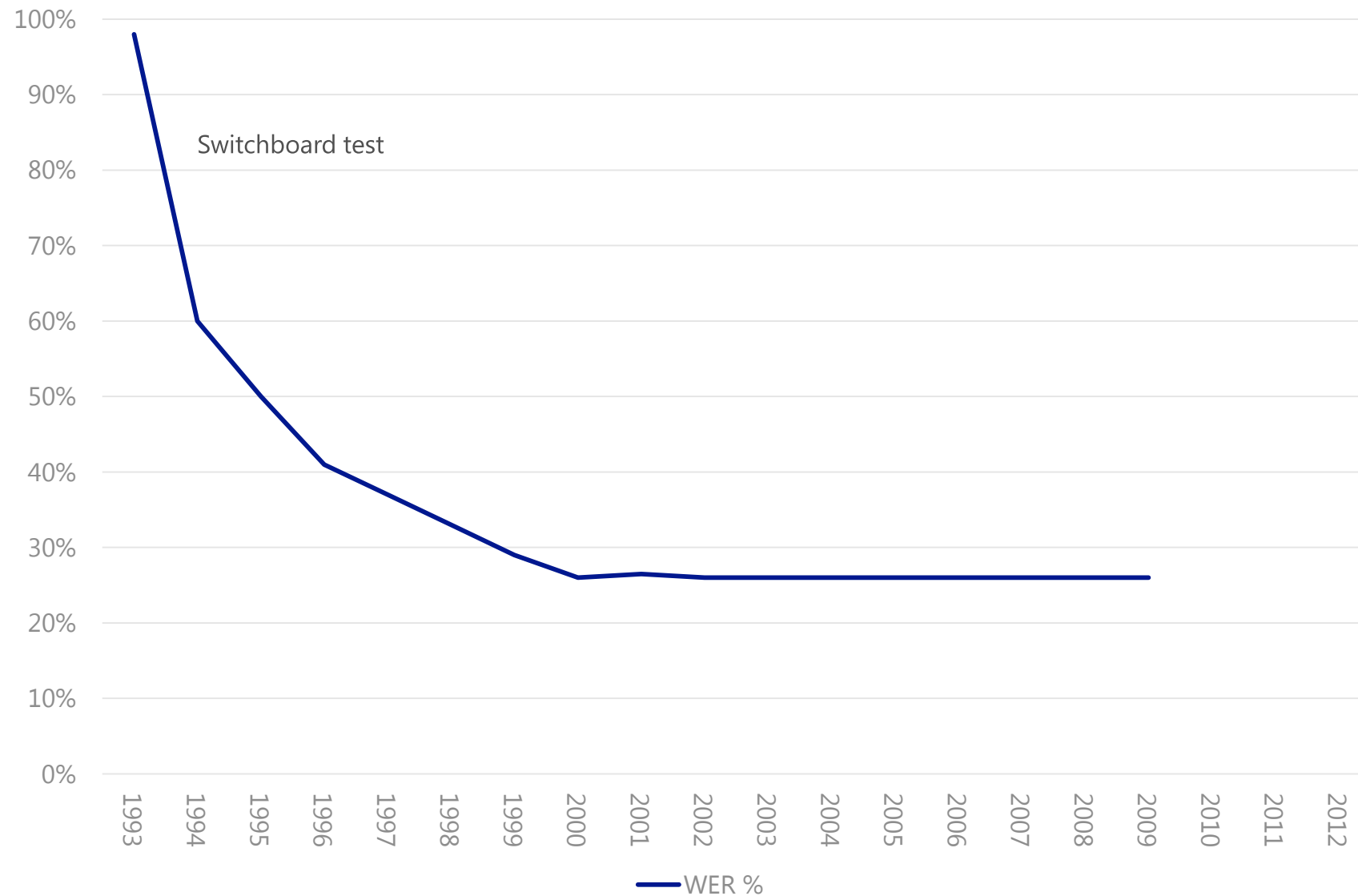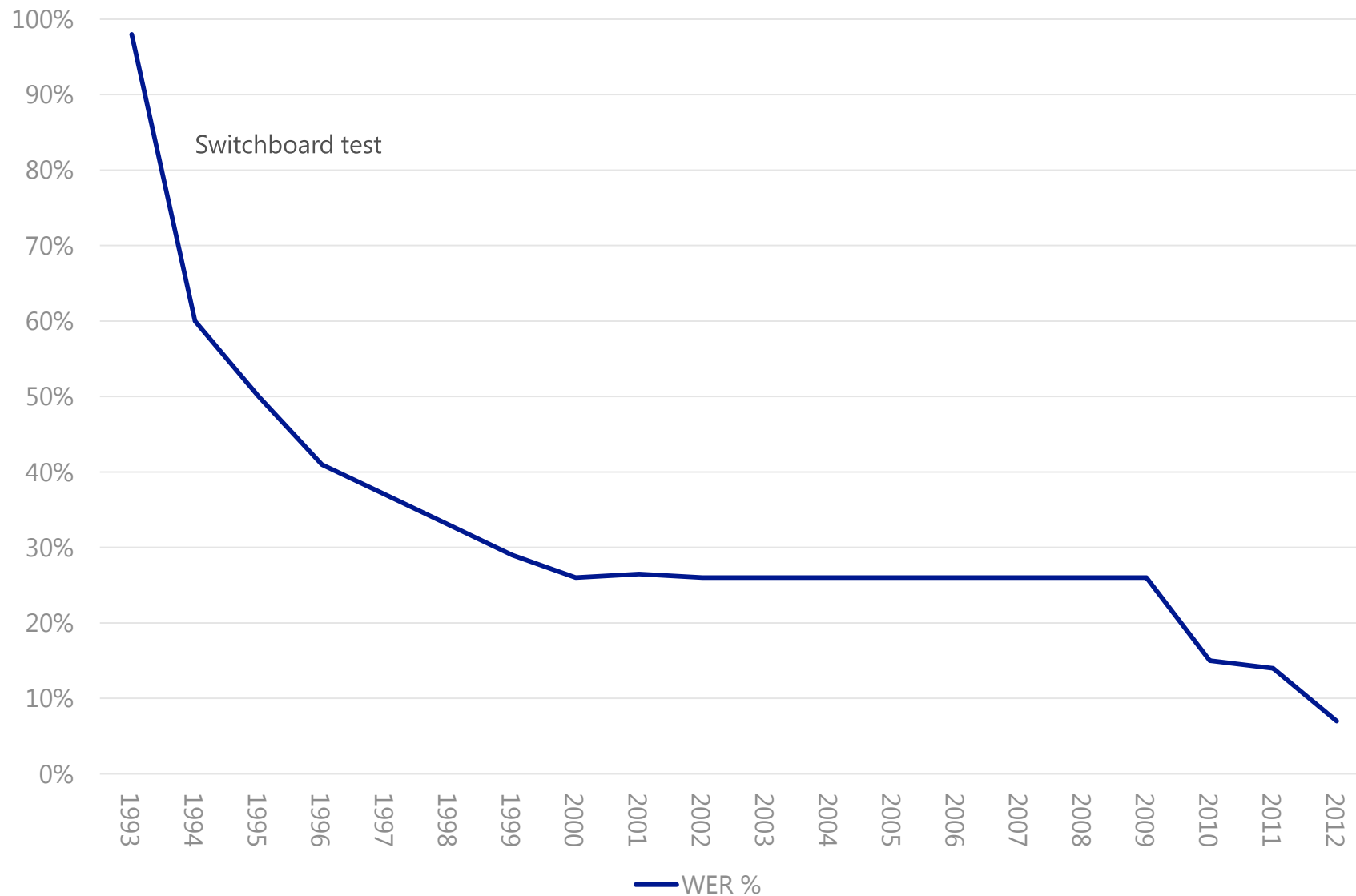
Switchboard test

100%	
90%	
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1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012

——— WER %

Speech recognition progress

Switchboard test

WER %

[Li Deng](), [Dong Yu](), [Geoffrey Hinton]()

Microsoft Research; Microsoft Research; University of Toronto

Deep Learning for Speech Recognition and Related Applications

7:30am - 6:30pm Saturday, December 12, 2009

Location: Hilton: Cheakamus

**Abstract:** Over the past 25 years or so, speech recognition technology has been dominated by a "shallow" architecture --- hidden Markov models (HMMs). Significant technological success has been achieved using complex and carefully engineered variants of HMMs. The next generation of the technology requires solutions to remaining technical challenges under diversified deployment environments. These challenges, not adequately addressed in the past, arise from the many types of variability present in the speech generation process. Overcoming these challenges is likely to require "deep" architectures with efficient learning algorithms. For speech recognition and related sequential pattern recognition applications, some attempts have been made in the past to develop computational architectures that are "deeper" than conventional HMMs, such as hierarchical HMMs, hierarchical point-process models, hidden dynamic models, and multi-level detection-based architectures, etc. While positive recognition results have been reported, there has been a conspicuous lack of systematic learning techniques and theoretical guidance to facilitate the development of these deep architectures. Further, there has been virtually no effective communication between machine learning researchers and speech recognition researchers who are both advocating the use of deep architecture and learning. One goal of the proposed workshop is to bring together these two groups of researchers to review the progress in both fields and to identify promising and synergistic research directions for potential future cross-fertilization and collaboration.

Roles of Pre-Training and Fine-Tuning in Context-Dependent DBN-HMMs for Real-World Speech Recognition

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{dongyu,deng}@microsoft.com

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Department of Computer Science
University of Toronto
Ontario, Canada
gdahl@cs.toronto.edu

NIPS 2010 Workshop on Deep Learning and Unsupervised Feature Learning
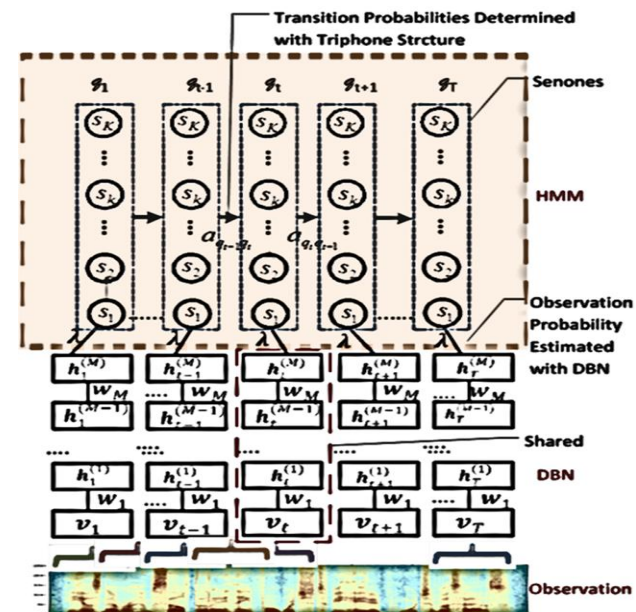
LARGE VOCABULARY CONTINUOUS SPEECH RECOGNITION WITH CONTEXT-DEPENDENT DBN-HMMS

*George E. Dahl**

University of Toronto
Department of Computer Science
Toronto, ON, Canada

Dong Yu, Li Deng, Alex Acero

Speech Research Group
Microsoft Research
Redmond, WA, USA

ICASSP 2011

Conversational Speech Transcription Using Context-Dependent Deep Neural Networks

Frank Seide[1], Gang Li,[1] and Dong Yu[2]

[1]Microsoft Research Asia, Beijing, P.R.C.
[2]Microsoft Research, Redmond, USA
{fseide,ganl,dongyu}@microsoft.com

INTERSPEECH 2011

The New York Times

Scientists See Promise in Deep-Learning Programs

John Markoff

November 23, 2012

The central role of university collaboration

Dependency Treelet Translation: Syntactically Informed Phrasal SMT

Chris Quirk, Arul Menezes
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Redmond, WA 98052
{chrisq,arulm}@microsoft.com

Colin Cherry
University of Alberta
Edmonton, Alberta
Canada T6G 2E1
colinc@cs.ualberta.ca

ACL 2007

Towards Concept-Based Translation Models Using Search Logs for Query Expansion

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Redmond, WA 98052, USA
jfgao@microsoft.com

Jian-Yun Nie
University of Montreal
CP. 6128, succursale Centre-ville
Montreal, Quebec H3C 3J7, Canada
nie@iro.umontreal.ca

CIKM 2012

STAR TREK
INTO DARKNESS
05.17.13

bing

Translate from: English (Auto-Detected) ▼

Translate to: Klingon (Kronos) ▼

Translate

In partnership with CBS, Paramount and KLI

At Microsoft, every day is a good day to do research!

Enter text or webpage URL   Clear All

Rate this translation: ✓ ✗ ⊘
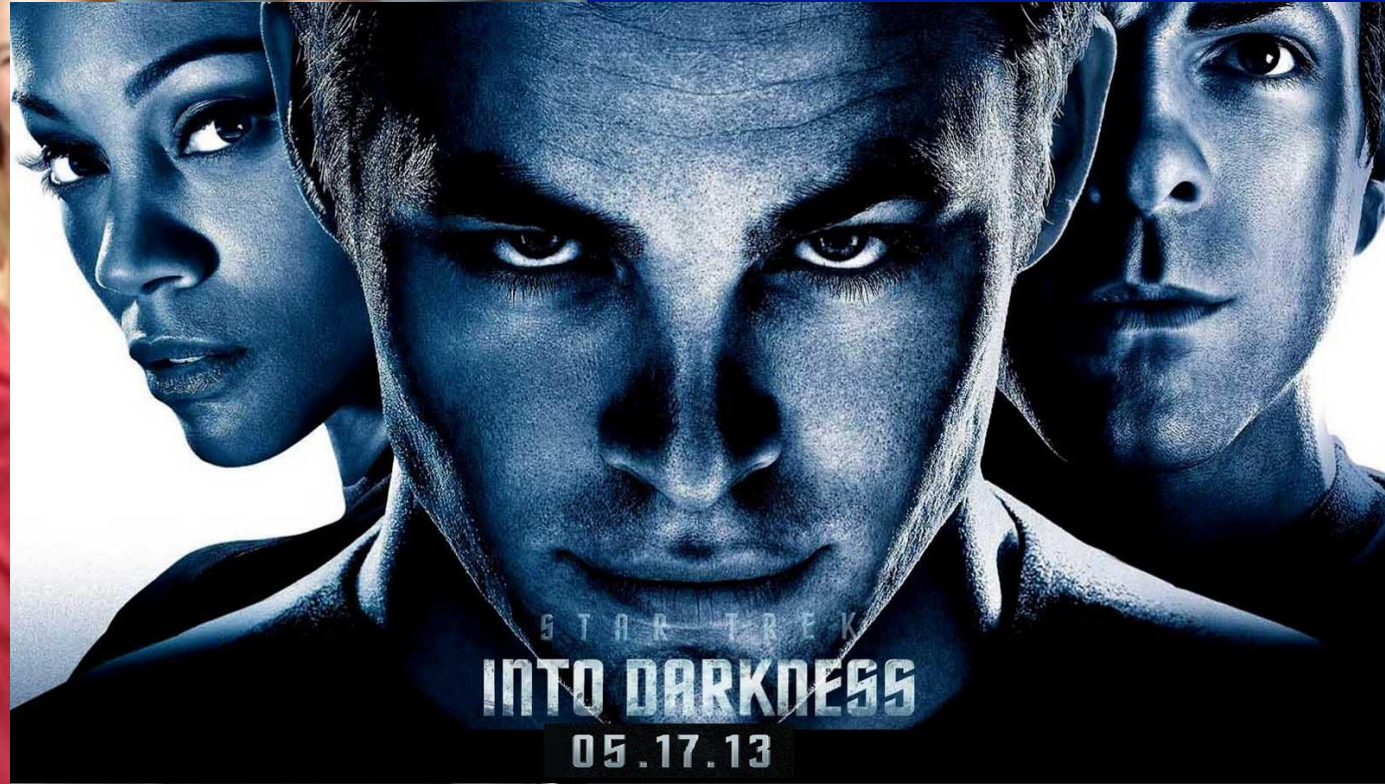
Microsoft® Translator Hub

Log in using Microsoft Account

Get started by requesting an invitation to build your translation system

Request an invitation

Where language meets the world

Bridging languages, cultures and technology

The adoption of Microsoft Translator Hub has truly helped us deliver on the promise of lowering costs, improving the customer experience and ensuring that they will return.

- Joseph Fiorentino, VP and General Manager,
Global Software Products, Lionbridge Technologies

MORE INFORMATION

Microsoft Translator

Microsoft Translator Hub Forum

Microsoft Translator Hub for Communities

ABOUT MICROSOFT TRANSLATOR HUB

Microsoft Translator Hub empowers businesses and communities to build, improve, and deploy customized automatic language translation systems - bringing better and specialized translation quality to established languages, as well as the many native languages of the world that are not yet supported by major translation providers.

Built on Windows Azure, Microsoft Translator Hub is an extension of the Microsoft Translator platform and service. You can build a superior translation system easily, within a private website, by combining your translated documents with the power of Microsoft Translator's big data back end. Once you are satisfied with your translation, you may share it publicly on the web.

1. Set up Project 2. Add Data 3. Create Model 4. Go Live

◀ Вернуться в раздел «Мой eBay» | Опубликовано в категории: **Одежда, обувь и аксессуары** > **Женская одежда** > **Платья**

hibiscus & sparrow — eclectic style for the thrifty minx

details

COTTON DAY DRESS - NEW

Beautiful printed cotton day dress with fitted top and slightly flare skirt. The dress has a high back neckline with a concealed centre zip. New with tags.

Size: Tagged 10, please check measurements given below

Measurements: all measurements are taken with the garment lying flat, from side to side, on one side only - bust is 48cm, waist is 40cm, length is 94cm.

Fabric: cotton

Stretchy?: slightly

Fastenings: zip

Care: hand wash

Condition: new with tags

Boring bits and return policy: All our items are carefully inspected for faults, however sometimes these can be overlooked. If you feel your item has not been accurately described please contact us and we will do our best to resolve your issue. Payment or contact within 1 day is greatly appreciated.

If you have any questions please don't hesitate to contact us - we'd love to hear from you :-)

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details

ХЛОПОК ДЕНЬ ПЛАТЬЕ - NEW

Красивая печатных хлопка день платье с оборудованной верхней и слегка flare юбка. Платье имеет высокий вырез обратно с скрытого центр zip. Новое с тегами.

Размер:тегами 10, пожалуйста проверьте измерения ниже

Измерения:все измерения производятся с одежды, лежал плоский, из стороны в сторону, только - на одной стороне бюст-48 см, талии, 40 см, длина 94 см.

Ткань:Хлопок

Stretchy?:слегка

Крепления: zip

Уход:стирайте вручную

Условие:новый с тегами

Скучно биты и возвращение политики:Все наши изделия тщательно проверяются на недостатки, однако иногда они могут быть пропущены. Если вы считаете, что ваш товар не был точно описанных пожалуйста свяжитесь с нами и мы сделаем все возможное, чтобы решить вашу проблему. Выплаты или контакт в течение 1 дня очень ценится.

Если у вас есть какие-либо вопросы, пожалуйста, не стесняйтесь связаться с нами - мы будем рады услышать от вас:-)
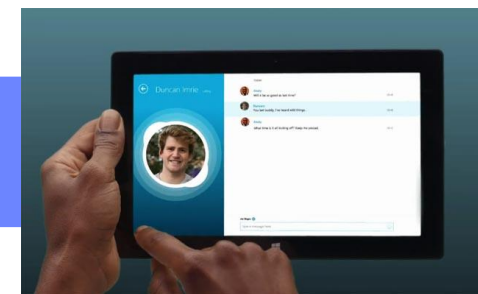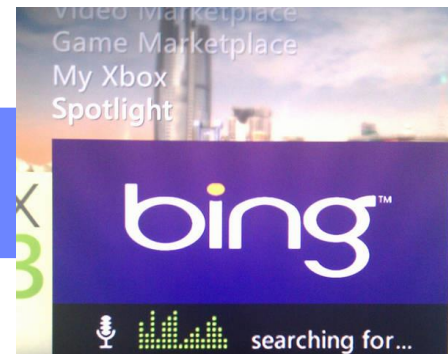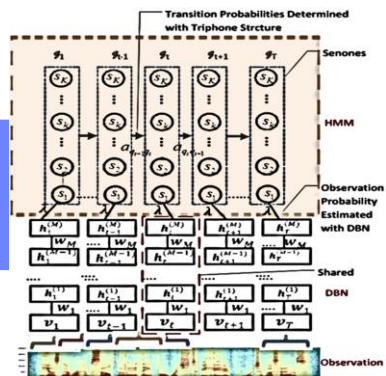
A **pipeline** from basic research to tech innovation

open-ended

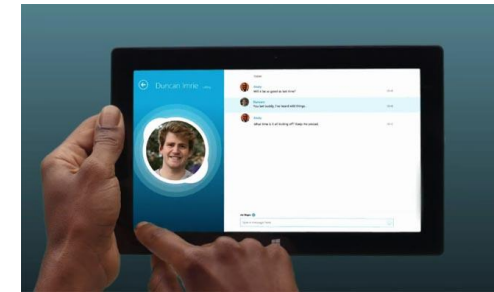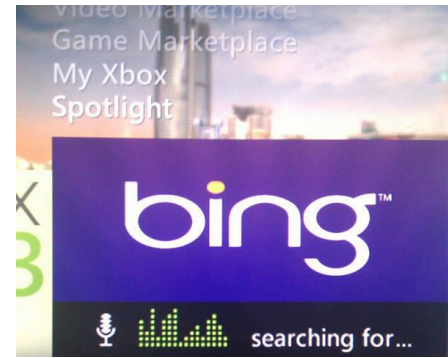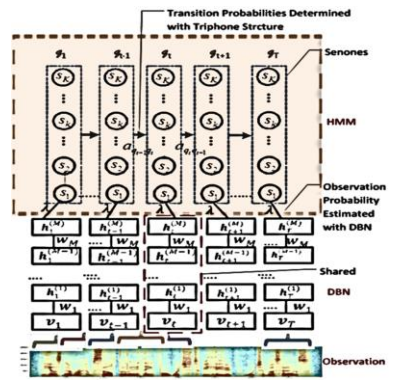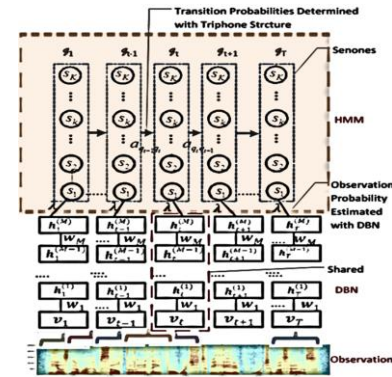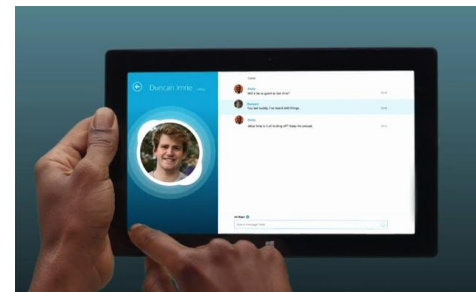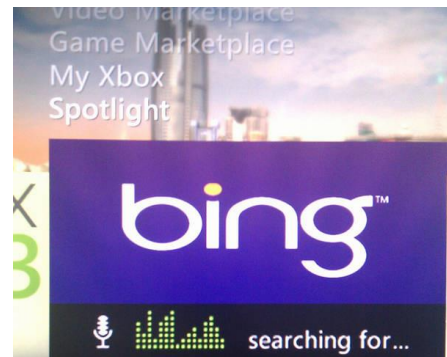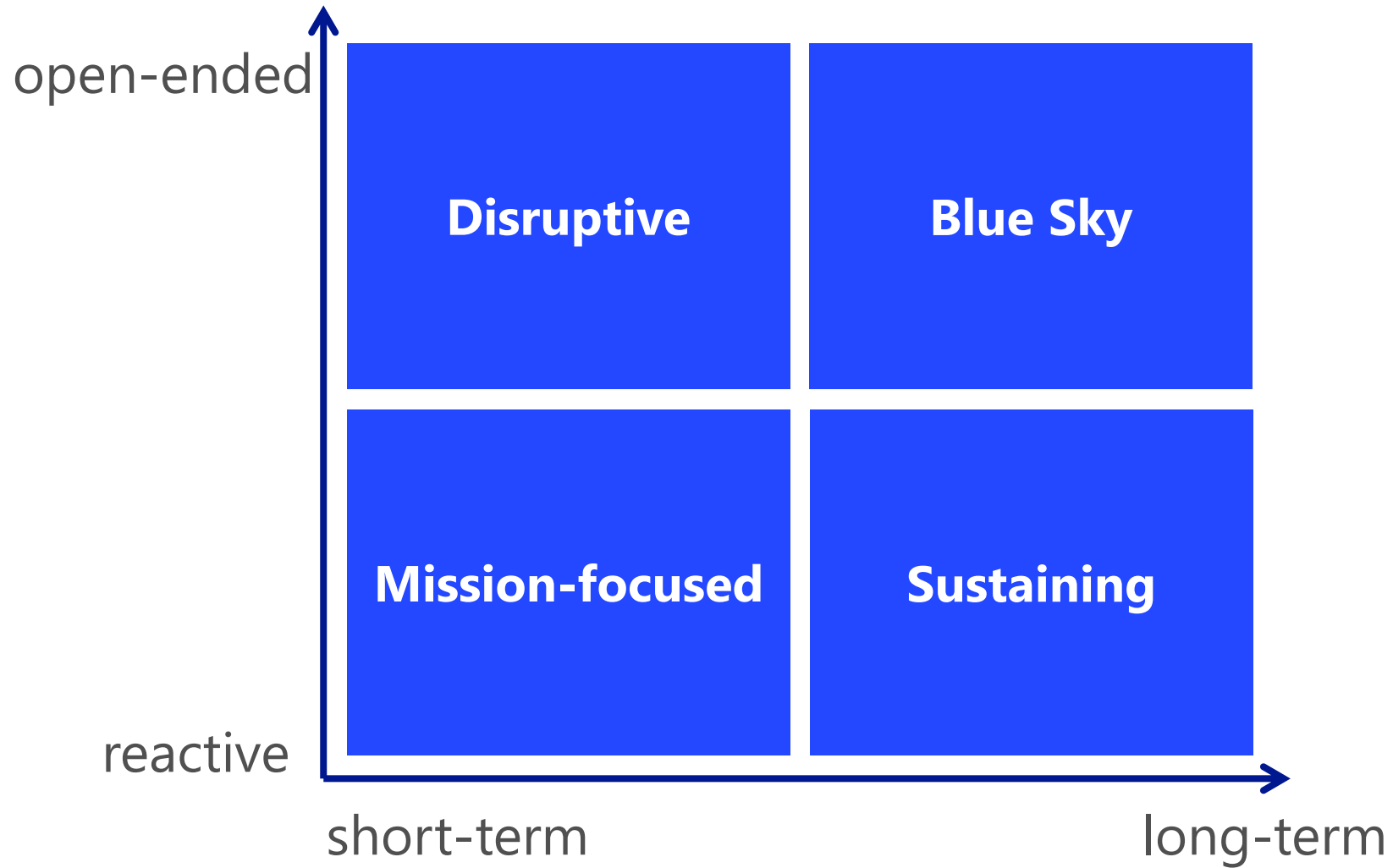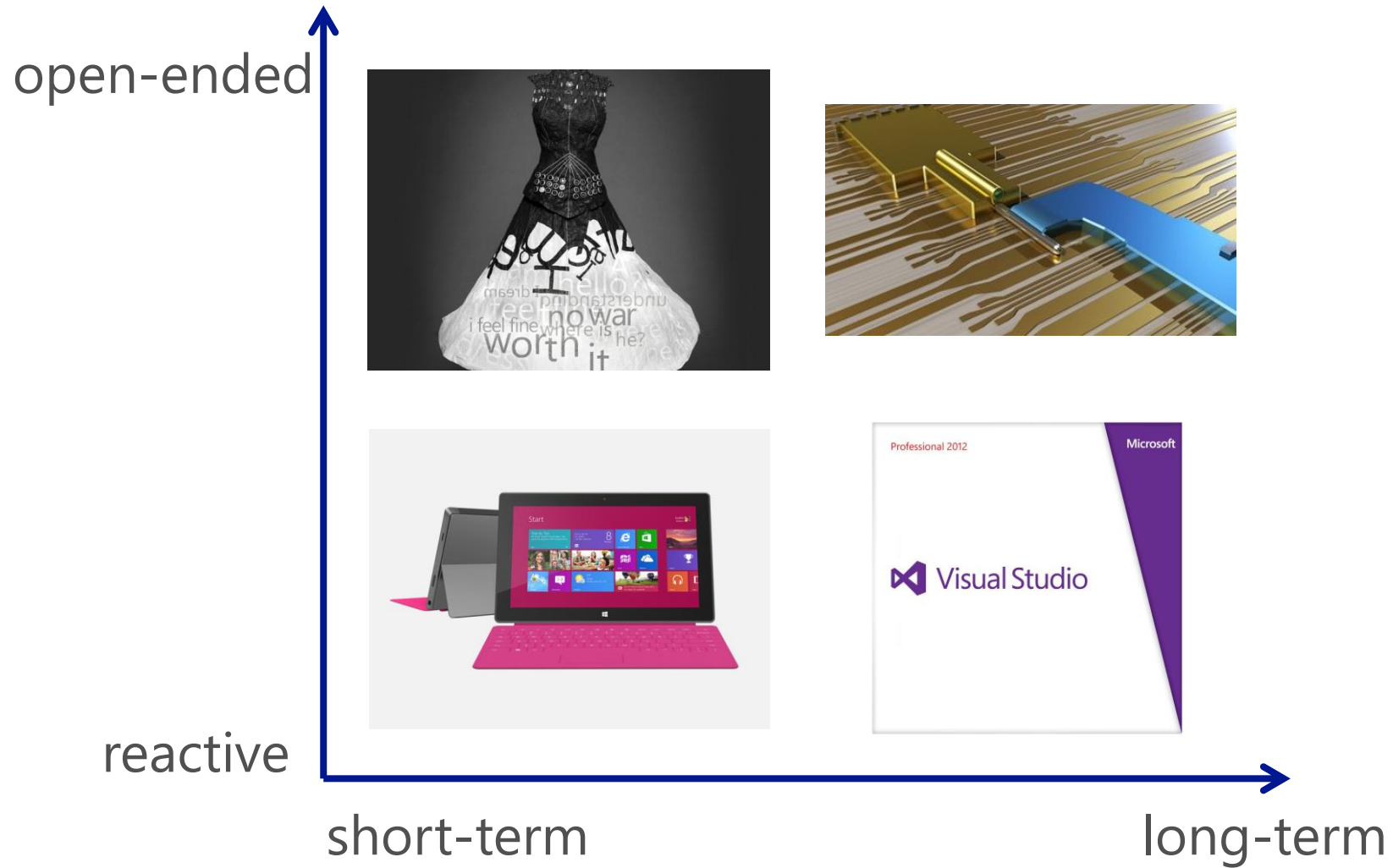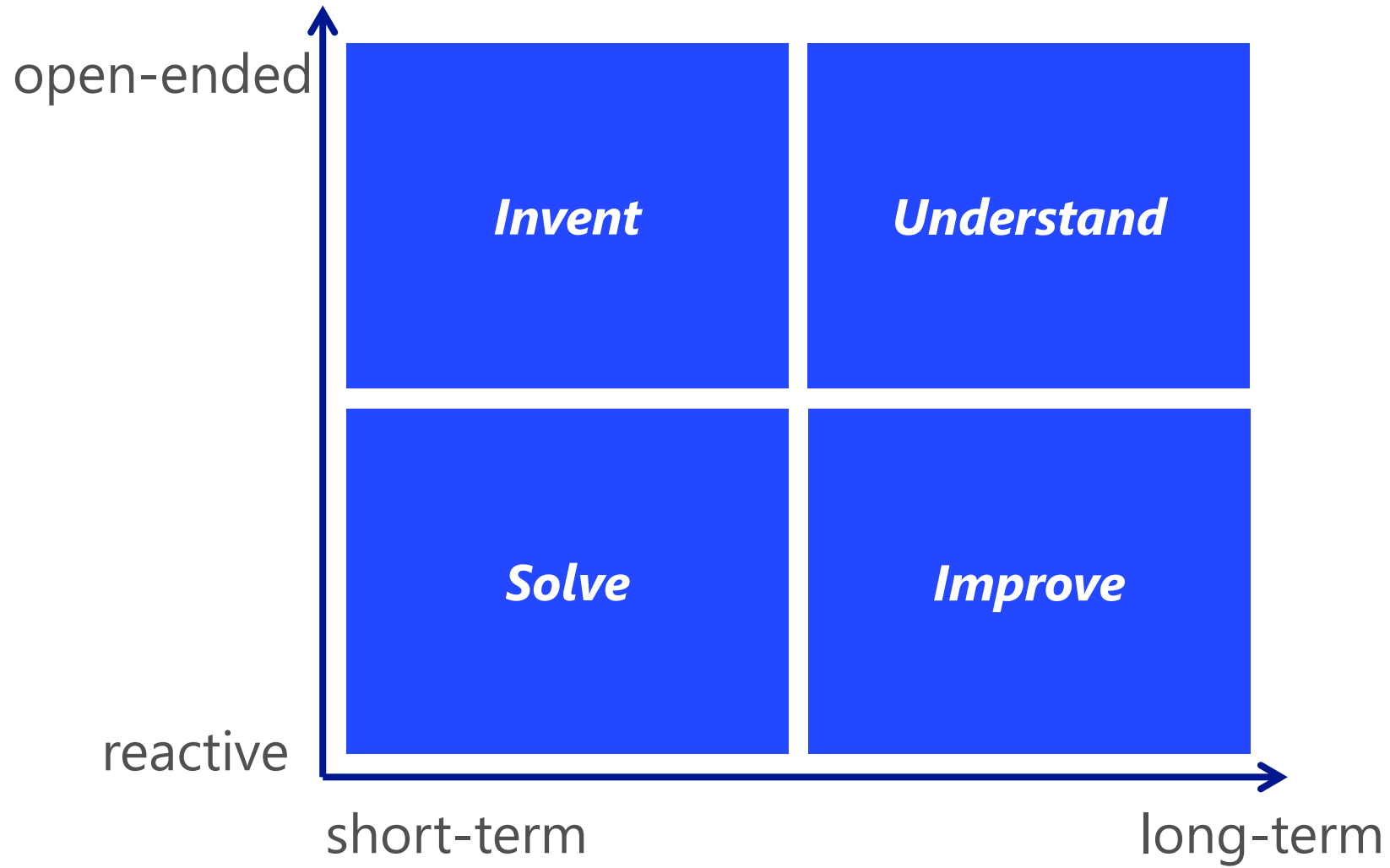reactive

short-term

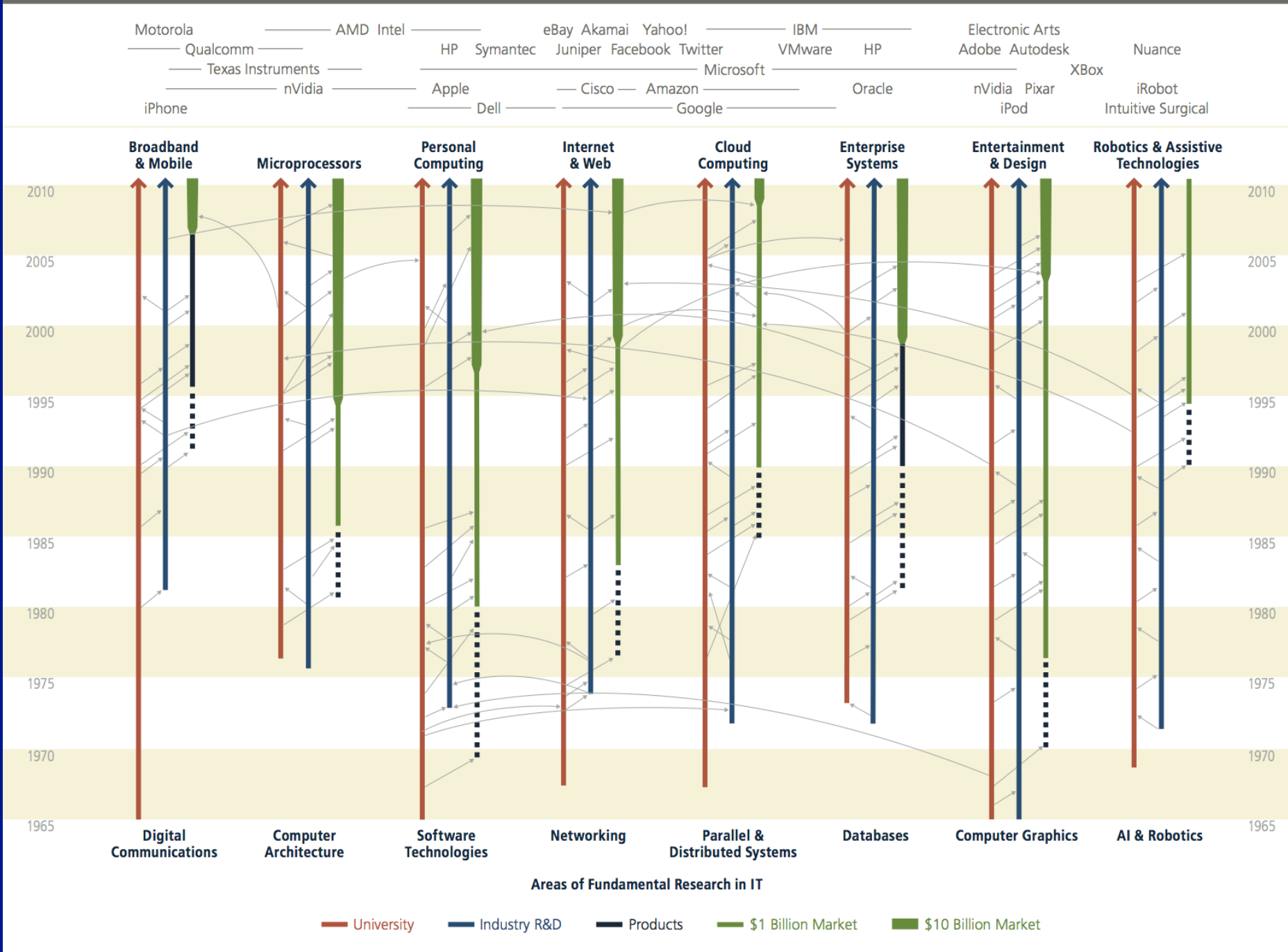long-term

open-ended

reactive

short-term

long-term

NEARLY EVERY PRODUCT MICROSOFT SHIPS
INCLUDES TECHNOLOGY FROM MICROSOFT RESEARCH

IT Sectors With Large Economic Impact

Motorola   AMD Intel   eBay Akamai Yahoo!   IBM   Electronic Arts
    Qualcomm   HP Symantec   Juniper Facebook Twitter   VMware   HP   Adobe Autodesk   Nuance
        Texas Instruments   Microsoft   XBox
            nVidia   Apple   Cisco   Amazon   Oracle   nVidia Pixar   iRobot
iPhone   Dell   Google   iPod   Intuitive Surgical

Broadband **Microprocessors** **Personal** **Internet** **Cloud** **Enterprise** **Entertainment** **Robotics & Assistive**
& Mobile   **Computing** **& Web** **Computing** **Systems** **& Design** **Technologies**

2010   2010

2005   2005

2000   2000

1995   1995

1990   1990

1985   1985

1980   1980

1975   1975

1970   1970

1965   1965

Digital **Computer** **Software** **Networking** **Parallel &** **Databases** **Computer Graphics** **AI & Robotics**
Communications **Architecture** **Technologies**   **Distributed Systems**

Areas of Fundamental Research in IT

— University   — Industry R&D   — Products   ▬ $1 Billion Market   ▬ $10 Billion Market

At Microsoft, basic research *matters*
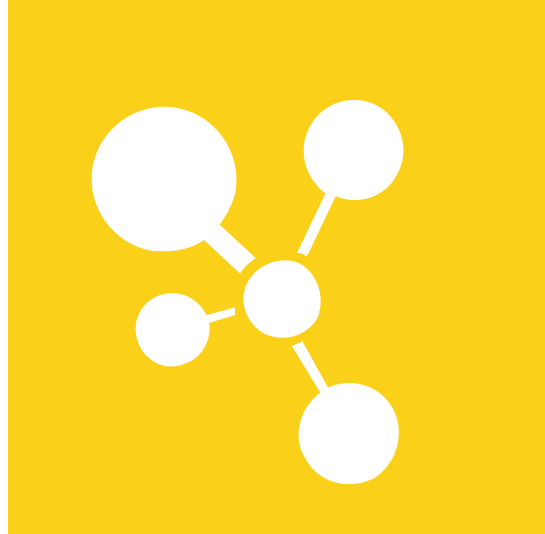
Microsoft Research

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Microsoft