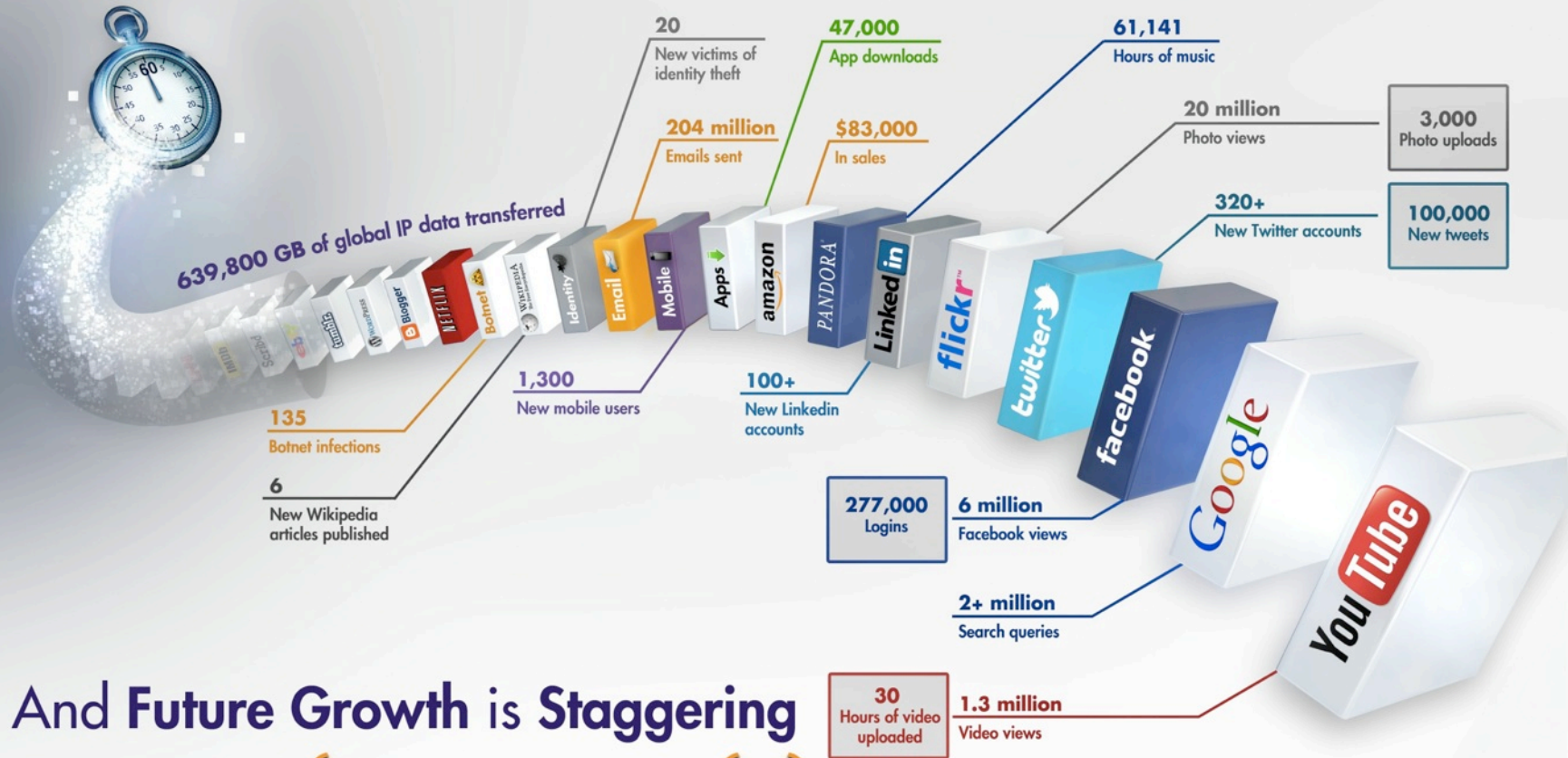


# **PURDUE MOVES STRENGTHENING COMPUTER SCIENCE TO DRIVE DISCOVERY**

**Jeff Roberts**

Frederick L. Hovde Dean, College of Science

# What Happens in an Internet Minute?



## And Future Growth is Staggering



Credit: Intel Corporation

# THE DATA REVOLUTION



**The last 30 years of research in ML/DM has resulted in wide spread adoption of predictive analytics to automate and improve decision making.**

**As “big data” efforts increase the collection of data ... so will the need for new data science methodology. Data today have more volume, velocity, variety, etc.**

***Machine learning* research develops statistical tools, models & algorithms that address these complexities.**

***Data mining* research focuses on how to scale to massive data and how to incorporate feedback to improve accuracy while minimizing effort.**

# DEMAND FOR GRADUATES

## OF COMPUTER SCIENCE PROGRAM

- **Robust and growing demand for CS students**
- **Hands-on, profitable internships**
- **Job placement near 100%; top salaries; sustained career advancement**
- **Expansive Corporate Partners Program**
  - **Separate CS Career Fair**
  - **Company days in the Lawson Commons**





# CS CORPORATE PARTNERS

A VERY DIVERSE GROUP



# RESEARCH AREAS

- **Bioinformatics and Computational Biology**
- **Computational Science and Engineering**
- **Databases and Data Mining**
- **Distributed Systems**
- **Graphics and Visualization**
- **Information Security and Assurance**
- **Machine Learning and Information Retrieval**
- **Networking and Operating Systems**
- **Programming Languages and Compilers**
- **Software Engineering**
- **Theory of Computing and Algorithms**

# GROWTH PLAN

## STRENGTHENING COMPUTER SCIENCE



- **Capitalize on current success and meet the future demand for CS graduates**
- **Demand + Excellence + Societal Need**
- **Increase enrollment for undergraduates and graduate students by 27%**
- **Increase faculty and staff**
  - **More than 20 faculty candidates have visited campus**
  - **Meet new CS hire Dr. Mathias Payer**
- **Create degree programs**
- **Professional MS in Data Science**
- **Joint programs, Core Curriculum**



Payer



# **CYBER-SUSTAINABILITY**

**IN PARTNERSHIP WITH AGRICULTURE**



- **Data is the new frontier for agriculture**
- **Capitalizing on Purdue's strengths to leverage the power of computing for feeding a growing world**
- **Purdue will become the pre-eminent leader in Cyber-Sustainability for Agriculture**
- **Increased entrepreneurship in this promising area**



# THANK YOU

## Questions?



(From left) Sunil Prabhakar, Computer Science department head  
and Jennifer Neville, associate professor of Computer Science