PURDUE MOVES
STRENGTHENING COMPUTER
SCIENCE TO DRIVE DISCOVERY

Jeff Roberts
Frederick L. Hovde Dean, College of Science
What Happens in an Internet Minute?

- 639,800 GB of global IP data transferred
- 204 million Emails sent
- 47,000 App downloads
- 83,000 In sales
- 61,141 Hours of music
- 20 million Photo views
- 320+ New Twitter accounts
- 3,000 Photo uploads
- 100,000 New tweets

And Future Growth is Staggering

Today, the number of networked devices = the global population
By 2015, the number of networked devices = 2x the global population
In 2015, it would take you 5 years to view all video crossing IP networks each second

Credit: Intel Corporation
The last 30 years of research in ML/DM has resulted in widespread 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
• 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
Questions?

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