# Academic Programs and Research

#### Esfan Haghverdi Executive Associate Dean for Academic Affairs

School of Informatics, Computing, and Engineering Indiana University Bloomington

December 5, 2018

### **SICE**

- ▶ 2000, School of Informatics
- ➤ **2005**, School of Informatics (CS joined the school)
- 2009, School of Informatics and Computing (Name change)
- 2013, School of Informatics and Computing (SLIS joined the school)
- ▶ 2015, Intelligent Systems Engineering Department and Program were approved
- ▶ 2017, School of Informatics, Computing, and Engineering



### SICE Structure

- Department of Computer Science
- Department of Informatics
- Department of Information and Library Science
- Department of Intelligent Systems Engineering
- Data Science Program

### Department of Computer Science

- Undergraduate Degrees
  - Bachelor of Science in Computer Science (Specializations: AI, PL, Systems, Foundations, Security, Data Science, Software Engineering)
  - Bachelor of Arts in Computer Science (Administered by the College of Arts and Science)
  - Accelerated Master's Program in Computer Science
  - Minor in Computer Science

### Department of Computer Science

- Graduate Degrees
  - M.S. in Computer Science
  - M.S. in Bioinformatics
  - M.S. in Secure Computing
  - Dual Degree in Secure Computing and the Russian and East European Studies
  - Ph.D. in Computer Science
  - Ph.D. in Cognitive Science and Computer Science (A dual major in cognitive science and computer science)
  - Ph.D. Minor in Computer Science

### Department of Informatics

- Undergraduate Degrees
  - ► Bachelor of Science in Informatics (Cognates in 30+ areas)
  - ▶ BSc Informatics → MSIS (Kelley School of Business)
  - ▶ BSc Informatics → MIS (ILS)
  - Certificate in Informatics
  - Minor in Human-Centered Computing
  - Minor in Informatics
  - Minor in Information Technology
  - Minor in Security Informatics

# Department of Informatics

#### Graduate Degrees

- ► M.S. in Informatics (Complex systems, proactive health informatics, human-computer interaction design, music informatics, intelligent and interactive systems, computing, culture and society, and virtual heritage)
- M.S. in Human-Computer Interaction Design
- Ph.D. in Informatics (Multiple tracks)
- Ph.D. Minors in Informatics
   (Bioinformatics, complex networks and systems, data science, human-computer interaction, informatics, music informatics, security informatics, and social informatics)

# Information and Library Science

- Minor in Intelligence Studies
- ► Master of Information Science (M.I.S.)
- Accelerated Master's Program in Information Science
   (B.S. or B.A. and a Master of Information Science)
- Master of Library Science (M.L.S.)
- ► Accelerated Master's Program in Library Science (B.S. or B.A. and a Master of Library Science)
- Ph.D. in Information Science
- Ph.D. minors: ILS, Information Science
- Graduate Certificate in Information Architecture

# Department of Intelligent Systems Engineering

- Undergraduate Degrees
  - ► Bachelor of Science in Intelligent Systems Engineering (Concentrations: Computer Engineering/Cyber-physical Systems, Bioengineering, Molecular Nanoscale Engineering)
  - Accelerated Master of Science in Intelligent Systems Engineering

# Department of Intelligent Systems Engineering

- Graduate Degrees
  - Master of Science in Intelligent Systems Engineering
  - ► PhD in Intelligent Systems Engineering (Tracks : Bioengineering, Computer Engineering, Cyber-physical Systems, Environmental Engineering, Molecular and Nanoscale Engineering, Neuroengineering)

#### Data Science

- Data Science GR CRT
- Data Science MS
- Data Science MS Online



### Graduate Certificates

- Graduate Certificate in Secure Computing
- Graduate Certificate in Cybersecurity Risk Management (jointly with Maurer and Kelley)

### Detailed Breakdown

- Bioinformatics MS
- Informatics MS
- Computer Sci-BS/MS
- Computer Science MS
- Computer Science PhD
- Data Science GR CRT
- Data Science MS
- Data Science Online
- Human Comp Interaction MS
- ▶ ISE PhD
- Informatics PhD
- Information Science MIS
- Information Science PhD
- Library Science MLS
- Secure Computing MS



#### Research Areas

- Algorithms for Big Data
- Artificial Intelligence
- Bioinformatics
- Cheminformatics
- Cognitive Science
- Complex Networks and Systems
- Computer Networks
- Computing, Culture and Society
- Cyberinfrastructure and e-Science
- Data Mining



#### Research Areas

- Data Science
- Database Theory and Systems
- Digital Preservation
- ► High Performance Computing
- Human Centered Computing
- Human Computer Interaction Design
- Information in Digital Environments
- Information Institutions
- Interactive Intelligent Systems
- Machine Learning



#### Research Areas

- Music Informatics
- Parallel and Distributed Computing
- Proactive Health Informatics
- Programming Language Principles, Design, and Implementation
- Security
- Social Informatics
- Software and Systems
- ► Theoretical Foundations of Computer Science
- Unconventional Computing
- Visualization, Computer Vision, and Graphics
- Web Science



# **Engineering Research Areas**

- Computer Engineering
- Cyber-physical Systems
- Bioengineering
- Molecular and Nanoscale Engineering
- Environmental Engineering
- Neuroengineering

#### Research Centers

- Center for Algorithms and Machine Learning (CAML)
- Center for Applied Cybersecurity Research
- Center for Bioinformatics Research
- Center for Complex Networks and Systems
- Center for Research in Extreme Scale Technologies
- Center for Research On Mediated Interaction (CROMI)
- Center for Security and Privacy in Informatics, Computing, and Engineering (SPICE)

#### Research Centers

- Cyberinfrastructure for Network Science (CNS) Center
- Data to Insight Center
- Digital Science Center
- Indiana University Network Science Institute
- Rob Kling Center for Social Informatics
- ► The Biocomplexity Institute

# Thank You!

ehaghver@indiana.edu