ABOUT THE ACM/IEEE-CS/AAAI COMPUTER SCIENCE CURRICULA (CS202X)

Amruth N Kumar
ACM Co-Chair

Rajendra K. Raj
IEEE - Computer Society Co-Chair
STEERING COMMITTEE - ACM

- Monica D. Anderson, University of Alabama, USA
- Richard L. Blumenthal, Regis University, USA
- Michael Goldweber, Xavier University, USA
- Pankaj Jalote, IIIT Delhi, India
- Sara Miner More, Johns Hopkins University, USA
- Susan Reiser, University of North Carolina, USA
- Titus Winters, Google Inc., USA
STEERING COMMITTEE – IEEE-CS

- Sherif G. Aly, American University in Cairo, Egypt
- Brett A. Becker, University College Dublin, Ireland
- Douglas Lea, SUNY Oswego, USA
- Michael Oudshoorn, High Point University, USA
- Marcelo Pias, Federal University of Rio Grande (FURG), Brazil
- Christian Servin, El Paso Community College, USA
- Qiao Xiang, Xiamen University, PRC
STEERING COMMITTEE - AAAI

- Eric Eaton, University of Pennsylvania, USA
- Susan L. Epstein, Hunter College and The Graduate Center of The City University of New York, USA
COMMUNITY PARTICIPATION

Subcommittee for each Knowledge Area
- 46 Non-Steering Committee members
- 20 Industry members

You are invited to participate:
- Provide feedback - on ongoing drafts
- Provide suggestions - to guide future drafts
- Volunteer - to serve on one of the subcommittees

csed.acm.org
SURVEYS

- **Academic Survey**
  - US - 143 respondents to date
  - Global - 177 respondents to date
    - Brazil
    - China
    - Europe
    - India
    - Ireland

- **Industry Survey**
  - 800+ respondents to date
VISION

- Curricular Guidelines volume
  - Knowledge Areas, Learning Outcomes and Competencies
- Models used
  - Knowledge model
  - Competency model
  - Consistency between the two
- Online version

- Curricular Practices volume
  - Social, Professional, and Programmatic Considerations
- Led by recognized experts in each area
KNOWLEDGE MODEL

- Knowledge Areas
- Illustrative Learning Outcomes
  - No CS2013 skill level [Familiarity/Usage/Assessment]
  - Emphasis on higher level skills
  - Interdisciplinary outcomes
- Core Hours
KNOWLEDGE AREAS - 1

- AI - Artificial Intelligence (CS2013: Intelligent Systems)
- AL - Algorithms and Complexity
- AR - Architecture and Organization
- DM - Data Management (CS2013: Information Management)
- GIT - Graphics and Interactive Techniques (CS2013: Graphics and Visualization)
- HCI - Human-Computer Interaction
KNOWLEDGE AREAS - 2

- MF - Mathematical Foundations (CS2013: Discrete Structures)
- MOD - Modeling (CS2013: Computational Science)
- NC - Networking and Communication
- OS - Operating Systems
- PD - Parallel and Distributed Computing
- PL - Programming Languages
KNOWLEDGE AREAS - 3

- SDF - Software Development Fundamentals
- SE - Software Engineering
- SEC - Security (CS2013: Information Assurance and Security)
- SEP - Society, Ethics and Professionalism (CS2013: Social Issues and Professional Practice)
- SF - Systems Fundamentals
- SPD - Specialized Platform Development (CS2013: Platform-Based Development)
CORE HOURS

- **CS2013:**
  - CS2013 Core Tier I
    - 165 hours
  - CS2013 Core Tier II
    - 143 hours – 80% coverage adequate

- **Current Plan for CS202X:**
  - CS202X CS Core: what every CS graduates must know
  - CS202X KA Core: what any coverage of the Knowledge Area must include

280 hours (CC2001) → 290 (CS2008) → max 308 (CS2013) → ???
COMPETENCY MODEL

- Competency = Knowledge + Skills + Dispositions (from CC2020)
- Dispositions:
  - Cultivated behaviors desirable in the workplace
  - Identified for each Knowledge Area
  - Disaggregated
CURRICULAR PRACTICES VOLUME

- Written by recognized experts
- Peer-reviewed articles
  - Not position papers
- Program design and delivery issues
  - Social, professional, ethical, practical, geographical, and philosophical considerations
- What would you like to see covered (csed.acm.org)?
  - Topics
  - Contributors
Some Topics

- Social Issues
  - DEI
  - Accessibility
- Professional Practices
  - Liberal Arts
  - Community Colleges
  - Latin America/India/Europe
- Programmatic Considerations
  - CS + X
WE INVITE YOUR PARTICIPATION

- Contest on Characteristics of CS Graduates
  - contest@volunteer.acm.org
- Topics for Companion Volume
- Web site for feedback: csed.acm.org
  - Feedback, suggestions
  - Volunteer to contribute
    - Feedback form, Email address for each Knowledge Area