

Living In the KnowEdge Society (LIKES) Initiative and iSchools' Focus on the Information Field

Seungwon Yang¹, Edward A. Fox¹ and Wingyan Chung⁴



INTRODUCTION

As iSchools try to equip college graduates with skills and knowledge to work in the Information Field (iField), the Living In the KnowEdge Society (LIKES) Community Building project focuses broadly on preparing these graduates to live in and to build the emerging knowledge society of the 21st century. We expect that LIKES graduates will connect naturally with the iField, and hope for more synergy between the two initiatives.

iSchools attempt to immerse people in the iField. Ron Larsen, Dean of the University of Pittsburgh's School of Information Sciences, emphasizes the importance of 'totality,' which is to integrate information in different disciplines, with technology in society, when educating students. As with LIKES, iSchools often aim to reach out to all parts of their campuses, to broaden the impact of their education, research, and service programs. All iSchools provide courses that teach computing concepts as well as information-related topics.

LIKES VISION AND iSCHOOLS

LIKES was launched in 2007, as part of NSF's CPATH program to transform computing education at the undergraduate level to meet the challenges ahead.

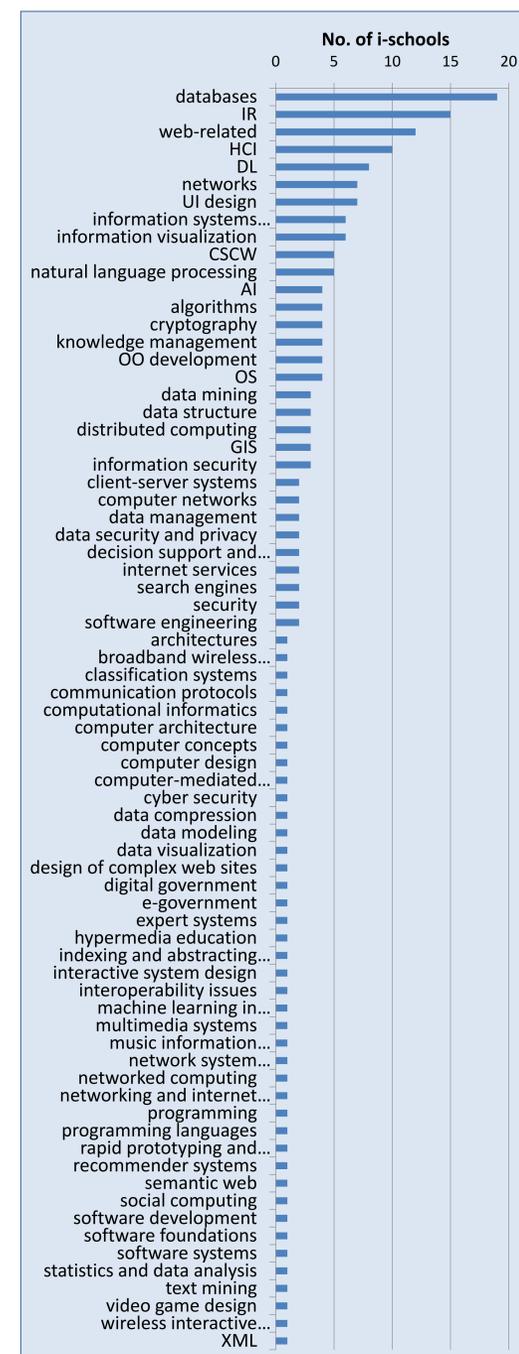
Goals and objectives of the LIKES project:

- **Goal 1:** Transform computing education so graduates can help build systems, services, tools, or new paradigms for the Knowledge Society.
- **Goal 2:** Establish collaboration between computing educators and all other disciplines to support educating the next-generation of knowledge society builders.
- **Objective 1:** Ensure that all interested undergraduates are prepared for living in the emerging Knowledge Society of the 21st Century.
- **Objective 2:** Spread computational thinking, fundamental CS/IT paradigms, key computing concepts, and ICT paradigms across the Knowledge Society.

Frequently taught computing topics in iSchools:

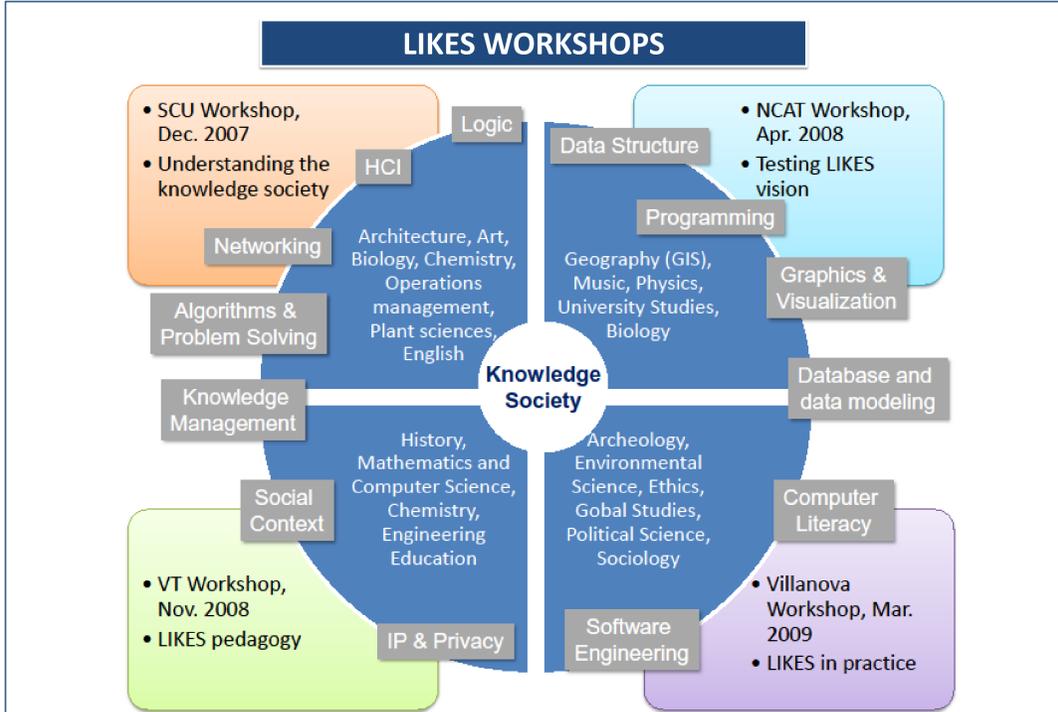
algorithms, databases, human-computer interaction, information retrieval and storage, information visualization, networks, etc. (Please see the graph on the right for more topics)

Computing Topics in iSchool Courses



Questions?
Edward Fox at fox@vt.edu
Project homepage:
<http://www.livingknowledgesociety.org>

Work supported by the NSF under Grant Nos. CCF-0722259, 0722276, 0722289 and 0752865. Findings, conclusions, or recommendations expressed are those of the authors and do not necessarily reflect NSF's views.



SUCCESSES, LESSONS, GRAND CHALLENGES

- Successes: New Courses Created in Four Sites**
- VT: Introduction to LIKES, LIKES capstone
 - SCU: Information Technology, Business and Society
 - NC A&T: Introduction of Web Science
 - Villanova: The Laptop Instrument (CS + Music)
- Grand challenges identified from the workshops**
1. Preparing students for scholarship and work in collaborative environments
 2. Information literacy and critical thinking regarding the technology
 3. Enticing faculty to incorporate computational thinking and collaborate with each other
 4. Limitations in software tools and their use – visualization/simulation for large classes, lack of tools for specific purposes, disconnect between humanity's needs and the developers of the tools (making usable tools)
 5. Archiving limitations
 6. Lack of research support (e.g., funding, etc.)
 7. Deep understanding and ability to match abstractions with problems in various contexts through modeling/using
 8. Moving from massive amount of data to hypothesis generation to testing
 9. Spreading LIKES to other disciplines and implementing the LIKES process in terms of maintainability (e.g., incorporation of new computing concepts dynamically – supercomputing/grid computing/cloud computing)