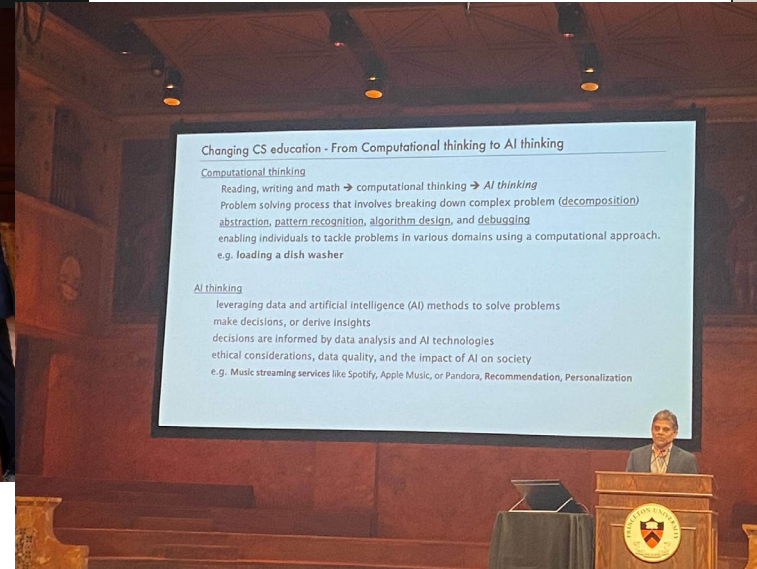


NJ-AI Hub and Rethinking CS

Andy Gunawardena
Computer Science Department
andy.guna@cs.rutgers.edu
<http://andyguna.com>



NJ-AI Summit – April 2024



My talk at Summit– April 2024



Education and Workforce Convening, Oct 2024 – organized by Andy Gunawardena, Margaret Martisoni, Pat Morreale

Focus Areas

Promoting AI R+D and Applied Research

The Hub will help companies integrate and apply AI to advance their research and development, focusing on industry sectors where New Jersey is most competitive. The Hub will also connect them to cutting-edge AI research and potential collaborators at the state's research universities.

Commercializing and Accelerating Innovation

The accelerator at the Hub will help facilitate the growth of the early-stage AI ecosystem in New Jersey, providing start-up ventures with essential space and support resources, mentoring, and access to capital.

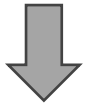
Strengthening and Scaling AI Education and Training

Working closely with New Jersey's higher education community and industry leaders, the Hub will promote high-quality talent development at all levels, and will leverage the resources of Microsoft's TechSpark program.

Rethinking CS courses with AI agents

Old Model:

- Syntax-heavy intro (loops, conditionals, data types)
- Bottom-up logic building
- Little connection to real-world applications early on



AI-Age Model:

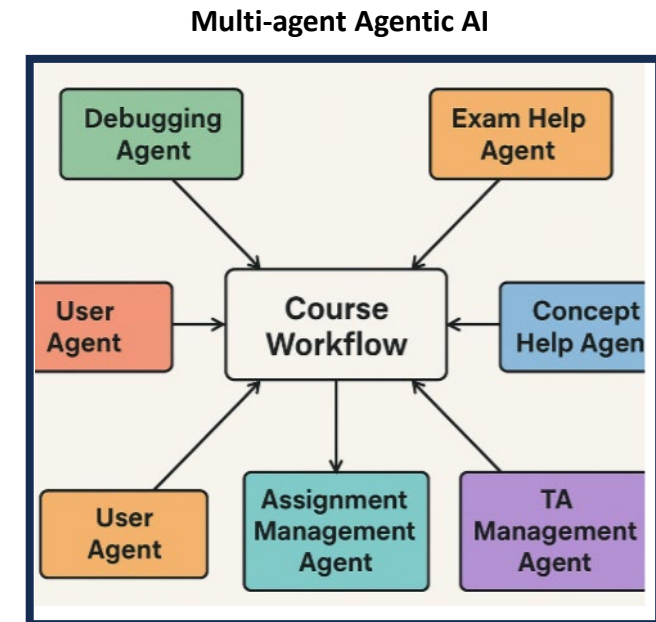
- Top-down introduction to *thinking with* computation
- Early exposure to AI-driven tools (e.g., GitHub Copilot, ChatGPT) as collaborators
- Problem-solving and *modeling* over just coding mechanics

WELCOME TO CODEBENCH

- Code**
Fetch your assignment from nbgrader, complete code with customized you.com search. Submit through nbgrader. For access issues, contact TA and/or use help form.
[CLICK HERE](#)
- Search**
Integrated AI search engine you.com and generative AI engine youchat can assist you complete assignments faster and better. Just make sure answers provided by AI engines are correct.
[CLICK HERE](#)
- Grades**
Find all grades and code feedback under codepost. Students can paralelly compare code on jupyterlab with their feedback provided in codepost. Email the Grader/TA for feedback queries.
[CLICK HERE](#)

CS1 is taken by 3000 students and only 500 becomes CS majors. Should we teach Java to all of them?

- Less emphasis on writing code
- More focus on **Reading and interpretation** of code
- Focus on **debugging** AI-generated code
- Focus on developing **test cases**
- Emphasis on **Program correctness**



Work with Tomasz Imielinski, Cathy Xie, 2025