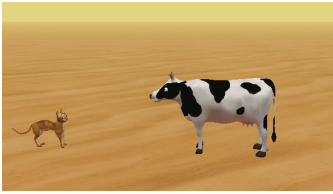# CompSci 94
Introduction to Programming Animation and Virtual Worlds
August 30, 2022

Prof. Susan Rodger

Class Today

- Go over syllabus, web page
- Introduce computer science and Alice
- Demos of Alice
  - Simple world/sample Alice worlds
- Classwork – Get to know each other
- Course website:

  www.cs.duke.edu/courses/fall22/compsci094

TA/UTA introductions

- Graduate TA: Yanping Zhang
- Undergraduate TAs:
  - Nirvan Silswal

  - Karen Wang

  - Isabelle Xiong

Course Web page
www.cs.duke.edu/courses/fall22/compsci094

CompSci 94, Fall 2022 Home

Home | Info | Cal | Asgn | Forms | Help | Resources | Projs

Course Announcements

- August 30, 2022 is the first day of class.
- You will need to bring a laptop to class and download a particular version of Alice 3 before coming to the first class if possible. More info on Alice 3 and downloading it is on the Resources page

CompSci 94 Introduction to Programming Via Animation and 3D Virtual Worlds

CompSci 94 is an introductory programming course that teaches fundamental computer science concepts and animation concepts. This version of CompSci 94 uses the tool Alice 3 to create 3-D virtual worlds. You will learn programming constructs such as

What is Computer Science?

- Computer science is no more about computers than astronomy is about telescopes.   - Edsger Dijkstra

- Computer science is not as old as physics; it lags by a couple hundred years. However, this does not mean that there is significantly less on the computer scientist's plate than on the physicist's: younger it may be, but it has had a far more intense upbringing!   - Richard Feynman

Computer Science is a young discipline

- First computer science department formed in 1962
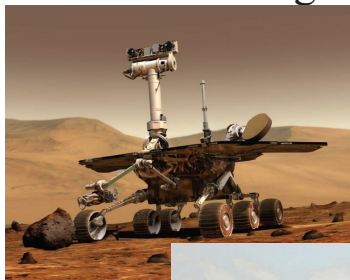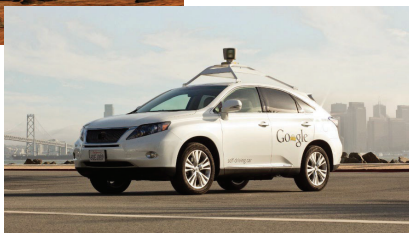
PURDUE
UNIVERSITY

1962

Samuel D. Conte
Professor emeritus of computer science and mathematics was the founding department head of the nation's first computer science program. October 1962.

What is Computer Science?

- Artificial Intelligence

Roomba

Spirit,
Mars Rover

Personal Robot

Self-driving car

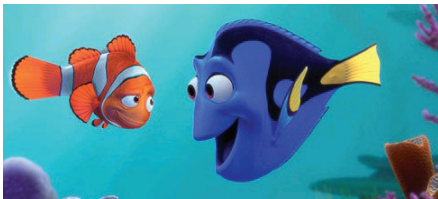## What is Computer Science?

- Medicine, Genomics

What is Computer Science?

- Animation

What is Computer Science?

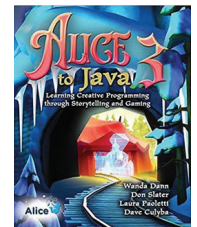- The Organization of Data, Sharing, and Searching

Computer Science and Programming

- Computer Science is more than programming
  - Called *Informatics* in many countries
  - Elements of both science and engineering
  - Elements of math, physics, cognitive science, music, art, and many other fields
- To some programming is an art, to others a science, to others an engineering discipline.

What Will We Do in CompSci 94?

- Alice 3 programming
- Logistics – bring to online lecture
  - laptop/computer
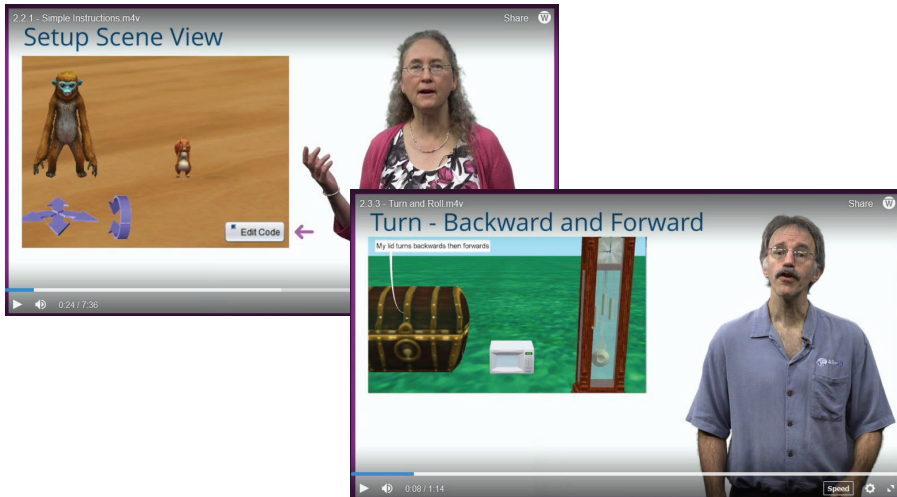 - **optional** Textbook
  - Instead: Free videos

Optional

Videos – Watch and take online quiz (on Sakai) before class
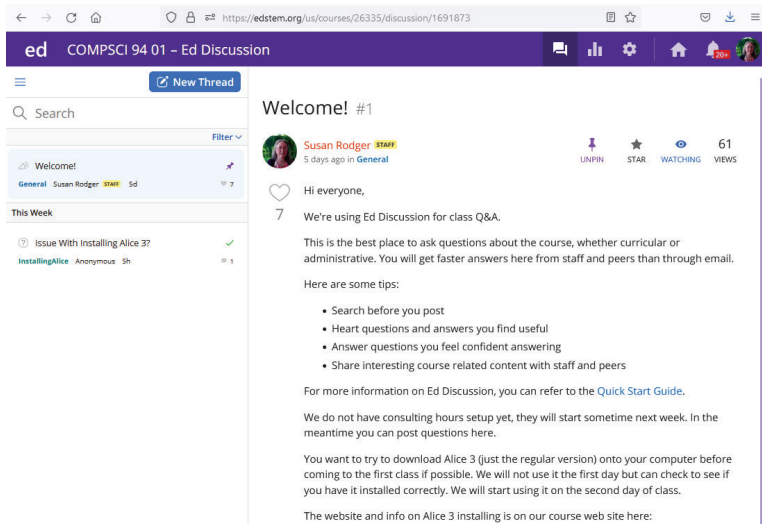### Prof. Susan Rodger/Prof. Steve Cooper

How CompSci 94 Will Work

- In Class
  - Lecture/demos/review – short
  - Full Lecture slides posted later
  - Classwork
  - REQUIRED ATTENDANCE
  - Checkoff Classwork
- Outside of class
  - Complete work not finished in class
  - Watch Videos – before class
  - Online Quizzes – before class
  - Assignments

Don't Send email, use Ed Discussion to ask questions!

What Is Alice?

- A modern programming tool
  - 3-D graphics
  - 3-D models of objects
- Animation
  - Objects can be made to move around virtual world (a simulation or video game)

What does Alice run on?

- Alice is written in Java – should run on many systems
  - supports Mac and PC
- Which version of Alice are we using?
  - Alice 3 (NOT netbeans version, NOT beta)
  - Alice.org, see the CompSci 94 resources page
    - Version 3.6
  - Note: Alice 3 is quite a bit different from Alice version 2

Example from Alice 2

CompSci 94 Example1 Final Project

Earth is under attack by aliens

CompSci 94 Example2 Final Project

CompSci 94 Example 3 Final Project

Get to the flag! (WASD/Arrows)

Who are you?
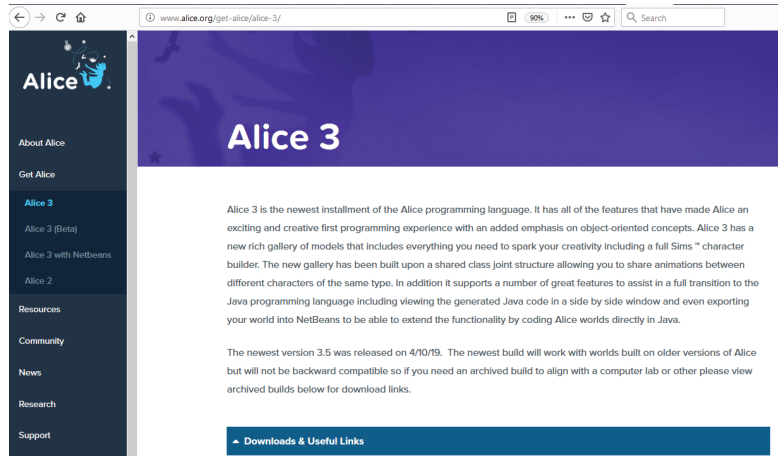**https://bit.ly/cps94f22-0830-1**

The Power of Alice

- Automatically keeps track of 3-D objects
  - What objects are in the virtual world
  - Types of objects
  - Positions of objects in the world

Alice Demo

Download Alice 3 from alice.org,
NOT Alice 2! NOT netbeans, NOT Beta!

For Thursday!

- No Alice classwork today but usually you would finish it
- We can check your Alice 3 install!!!
- Download Alice 3 if you haven't yet
- Assignment 1 out – Due Sept 8
  - This assignment does not use Alice
- Watch videos BEFORE coming to class.
- Take Quiz on Sakai BEFORE class starts