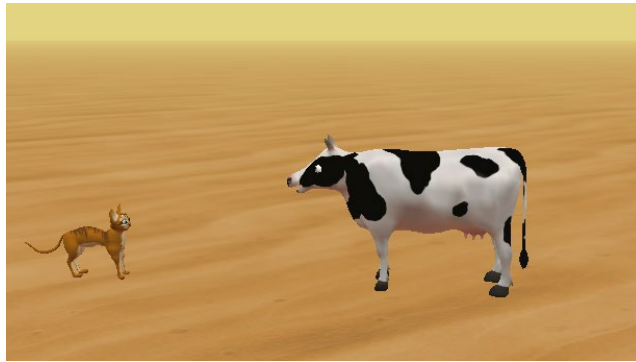


CompSci 94

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

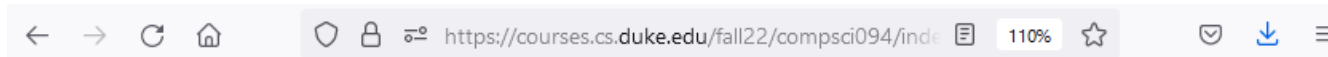


- Isabelle Xiong



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

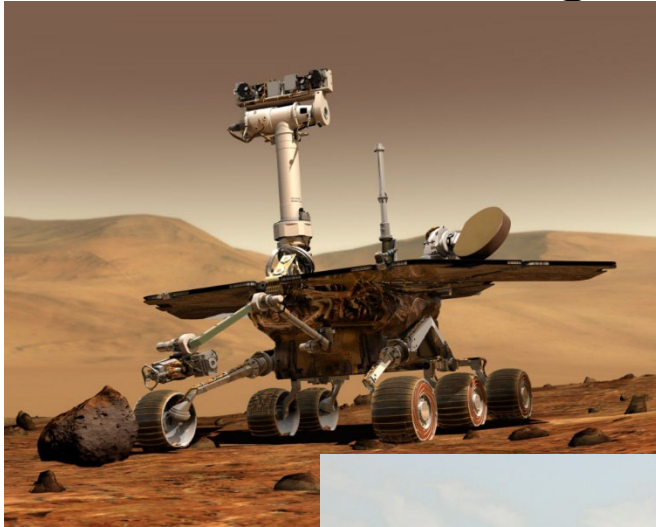
1962



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



Spirit,
Mars Rover



Self-driving car



Roomba



Personal Robot

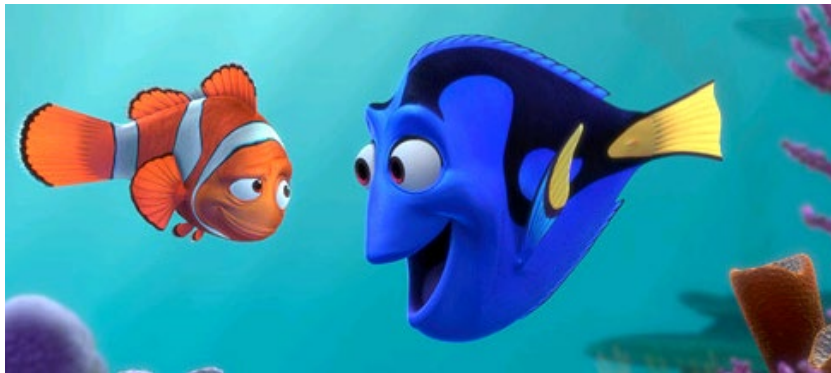
What is Computer Science?

- Medicine, Genomics



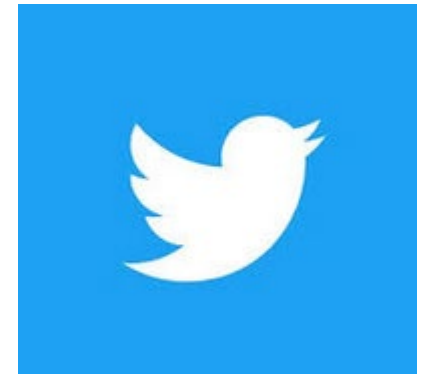
What is Computer Science?

- Animation



What is Computer Science?

- The Organization of Data, Sharing, and Searching

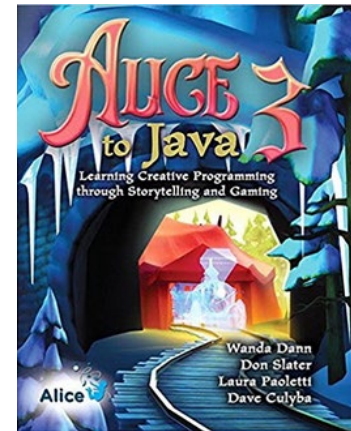


Computer Science and Programming

- 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

2.2.1 - Simple Instructions.m4v Share

Setup Scene View



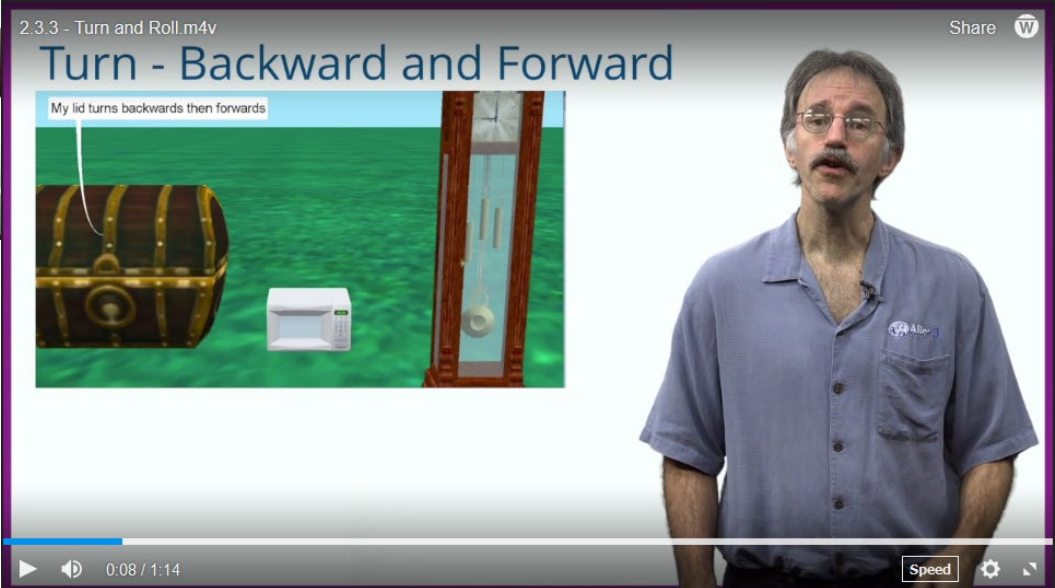
0:24 / 7:36

This video player shows a 3D scene titled "Setup Scene View". The scene features a large brown monkey on the left and a smaller, reddish-brown animal on the right, both on a light brown ground. Below the scene is a camera control interface with a blue directional pad and a circular rotation arrow. An "Edit Code" button is visible in the bottom right corner of the scene area. A purple arrow points from the "Edit Code" button towards the right, where the presenter is speaking.

2.3.3 - Turn and Roll.m4v Share

Turn - Backward and Forward

My lid turns backwards then forwards



0:08 / 1:14 Speed

This video player shows a 3D scene titled "Turn - Backward and Forward". The scene is set on a green surface and contains a brown treasure chest with gold bands, a white microwave, and a tall wooden grandfather clock. A text box above the scene reads "My lid turns backwards then forwards". A presenter, a man with glasses and a mustache wearing a blue polo shirt, is shown on the right side of the video player. The video player interface includes a progress bar at the bottom showing 0:08 / 1:14 and a "Speed" control button.

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!

ed COMPSCI 94 01 – Ed Discussion

New Thread

Search

Filter

Welcome!

General Susan Rodger STAFF 5d 7

This Week

Issue With Installing Alice 3? InstallingAlice Anonymous 5h 1

Welcome! #1

Susan Rodger STAFF
5 days ago in General

UNPIN STAR WATCHING 61 VIEWS

Hi everyone,

7 We're using Ed Discussion for class Q&A.

This is the best place to ask questions about the course, whether curricular or administrative. You will get faster answers here from staff and peers than through email.

Here are some tips:

- Search before you post
- Heart questions and answers you find useful
- Answer questions you feel confident answering
- Share interesting course related content with staff and peers

For more information on Ed Discussion, you can refer to the [Quick Start Guide](#).

We do not have consulting hours setup yet, they will start sometime next week. In the meantime you can post questions here.

You want to try to download Alice 3 (just the regular version) onto your computer before coming to the first class if possible. We will not use it the first day but can check to see if you have it installed correctly. We will start using it on the second day of class.

The website and info on Alice 3 installing is on our course web site here:

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



CompSci 94 Example2 Final Project



CompSci 94 Example 3 Final Project



Who are you?

<https://bit.ly/cps94f22-0830-1>

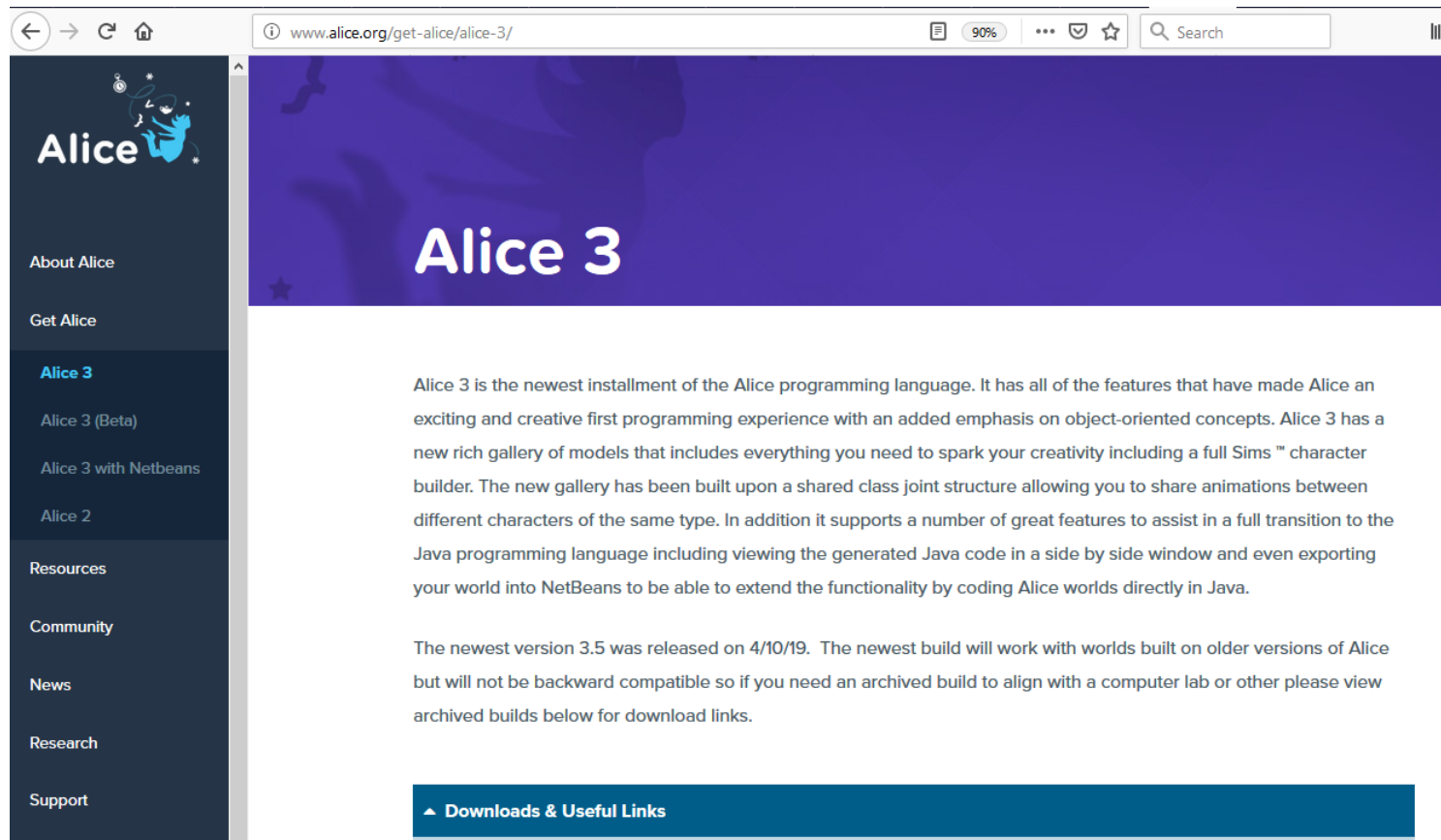
The Power of Alice

- 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!



The screenshot shows a web browser window with the URL www.alice.org/get-alice/alice-3/. The page features a dark blue header with the Alice logo and a large purple banner with the text "Alice 3". A left sidebar contains navigation links: "About Alice", "Get Alice", "Alice 3" (highlighted), "Alice 3 (Beta)", "Alice 3 with Netbeans", "Alice 2", "Resources", "Community", "News", "Research", and "Support". The main content area has a purple background and contains the following text:

Alice 3 is the newest installment of the Alice programming language. It has all of the features that have made Alice an exciting and creative first programming experience with an added emphasis on object-oriented concepts. Alice 3 has a new rich gallery of models that includes everything you need to spark your creativity including a full Sims™ character builder. The new gallery has been built upon a shared class joint structure allowing you to share animations between different characters of the same type. In addition it supports a number of great features to assist in a full transition to the Java programming language including viewing the generated Java code in a side by side window and even exporting your world into NetBeans to be able to extend the functionality by coding Alice worlds directly in Java.

The newest version 3.5 was released on 4/10/19. The newest build will work with worlds built on older versions of Alice but will not be backward compatible so if you need an archived build to align with a computer lab or other please view archived builds below for download links.

Below the text is a dark blue button labeled "Downloads & Useful Links".

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