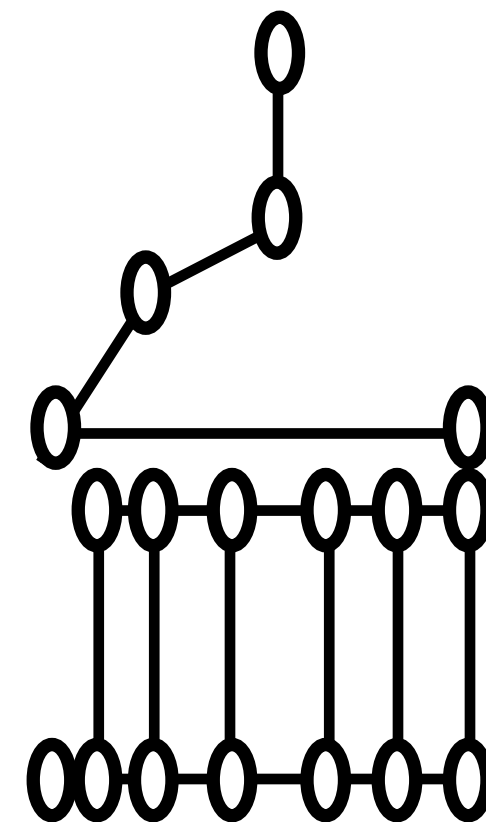


Lecture: Introduction

ENGR:2730 Computers in Engineering





Expected background

- ENGR:1300 (Intro to Engineering Computing (IEC))
- Knowledge of C, C++, or other basic structured programming techniques
- Basic programming, debugging, and problem-solving skills



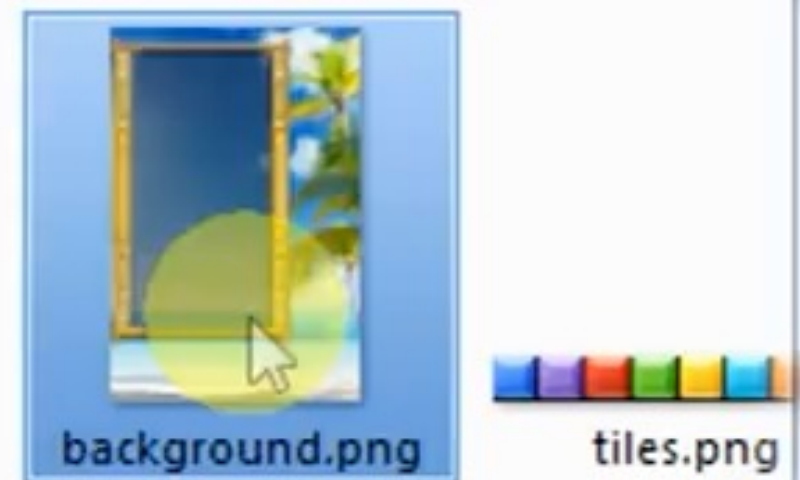
Learning Objectives

- Object Oriented Programming using C++
- Integrated Development Environment: CLion
 - Code development
 - Debugging
- Revision control software: Subversion (SVN)
- C++ Standard Template Library Containers: Strings, Vectors
- Use multimedia: Simple Fast Multimedia Library (SFML)
 - Games, Fonts, Sounds, Graphics
- Licensing
- Introduction to Data Structures
 - Linked Lists, Trees



Learning Objectives

- Object Oriented Programming
- Integrated Development Environment
 - Code development
 - Debugging
- Revision control software
- C++ Standard Template Library
- Use multimedia: Simple and Complex
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Learning Objectives

- Object Oriented Program
- Integrated Development Environment
 - Code development
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- C++ Standard Template Library
- Use multimedia: Simple Framework
 - Games, Fonts, Sounds
- Licensing
- Introduction to Data Structures
 - Linked Lists, Trees

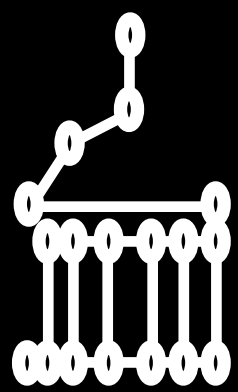




Required textbook

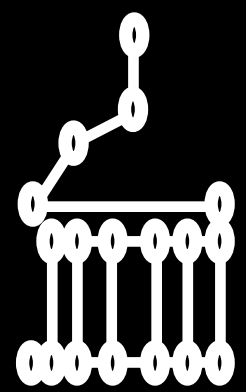
- *ENGR 2730: Computers in Engineering Required*
Author: Zybooks
Publisher: Zybooks
Price: \$64.00
- *To obtain the textbook.*
- Click any zyBooks assignment link in ICON (Do not go to the zyBooks website and create a new account)
- Subscribe
- *Prerequisite material: general understanding of the content of chapters 1, 2, 3, 4, 5, 7.1 – 7.4*





Gary E. Christensen

A little bit about me...



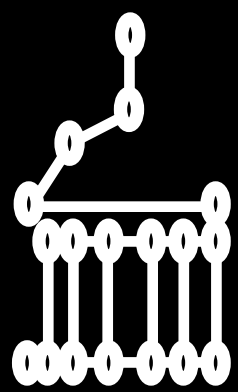
My Dogs

Penny

Truman



Bess



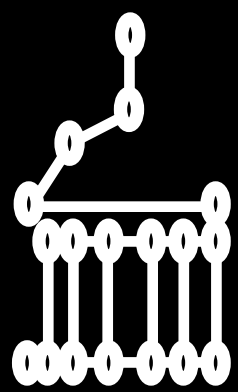
Gary E. Christensen

- 12.5 years at



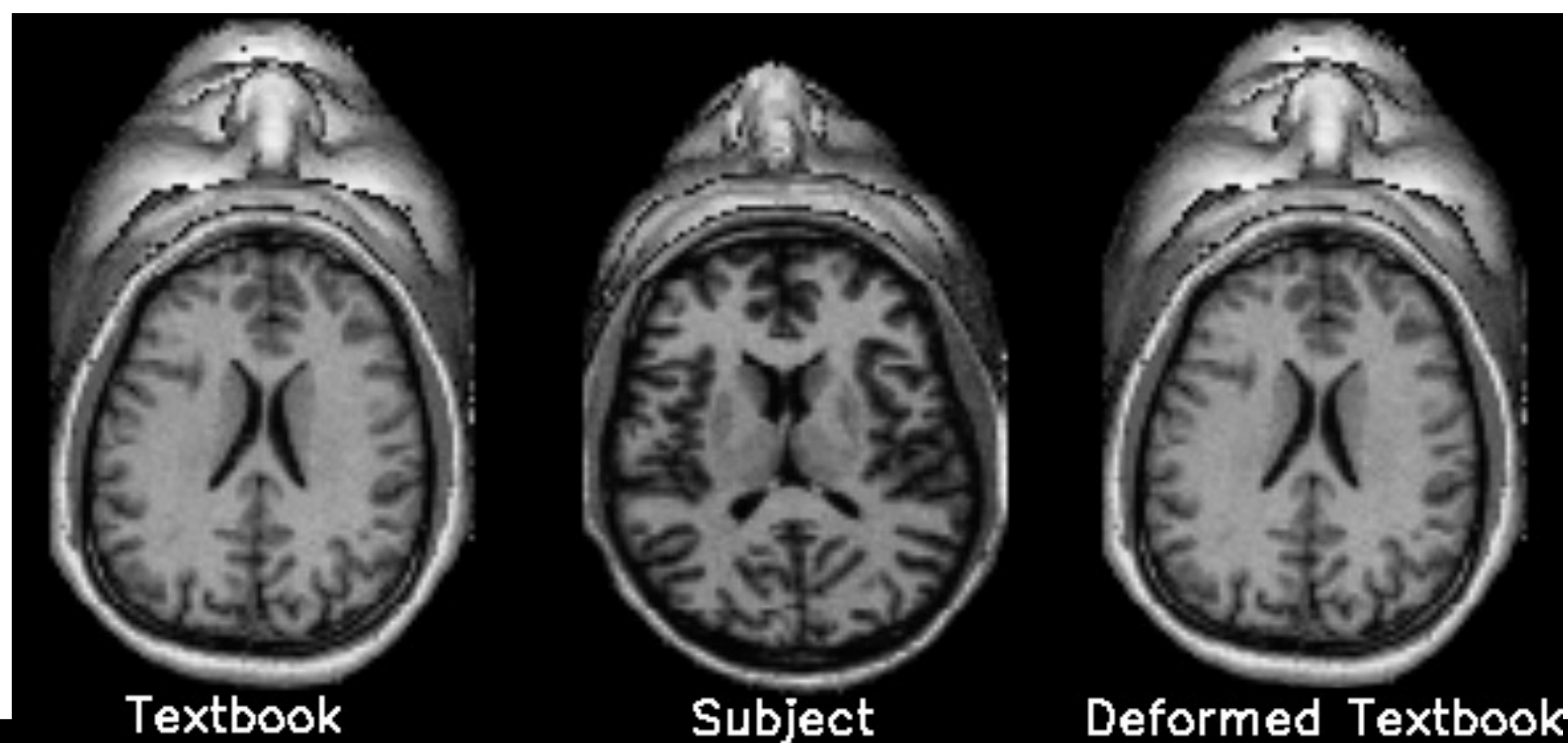
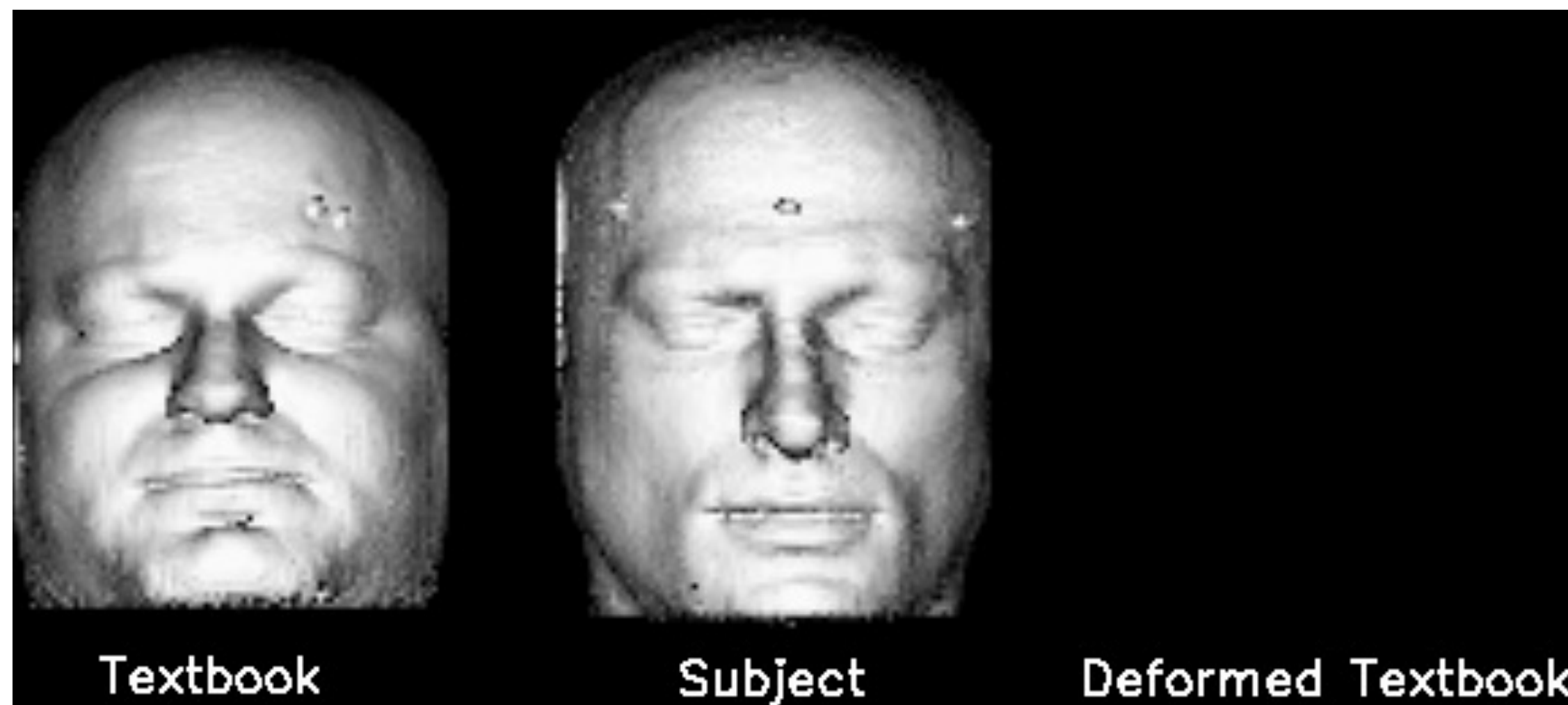
- BS in Computer Science, 1988, magna cum laude
- BS in Electrical Engineering, 1988, magna cum laude
- MS in Electrical Engineering (VLSI Design), 1989
- DSc in Electrical Engineering (Image Registration), 1994
- 2.5 years as Assistant Professor at Washington University School of Medicine



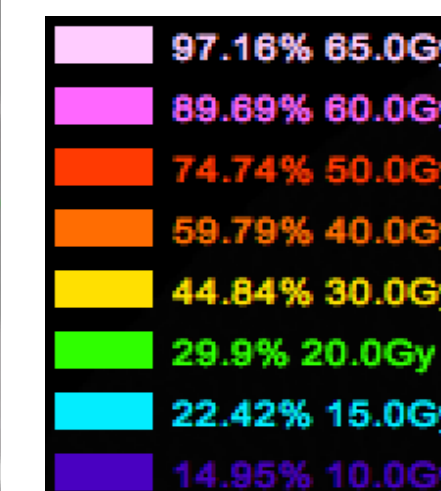
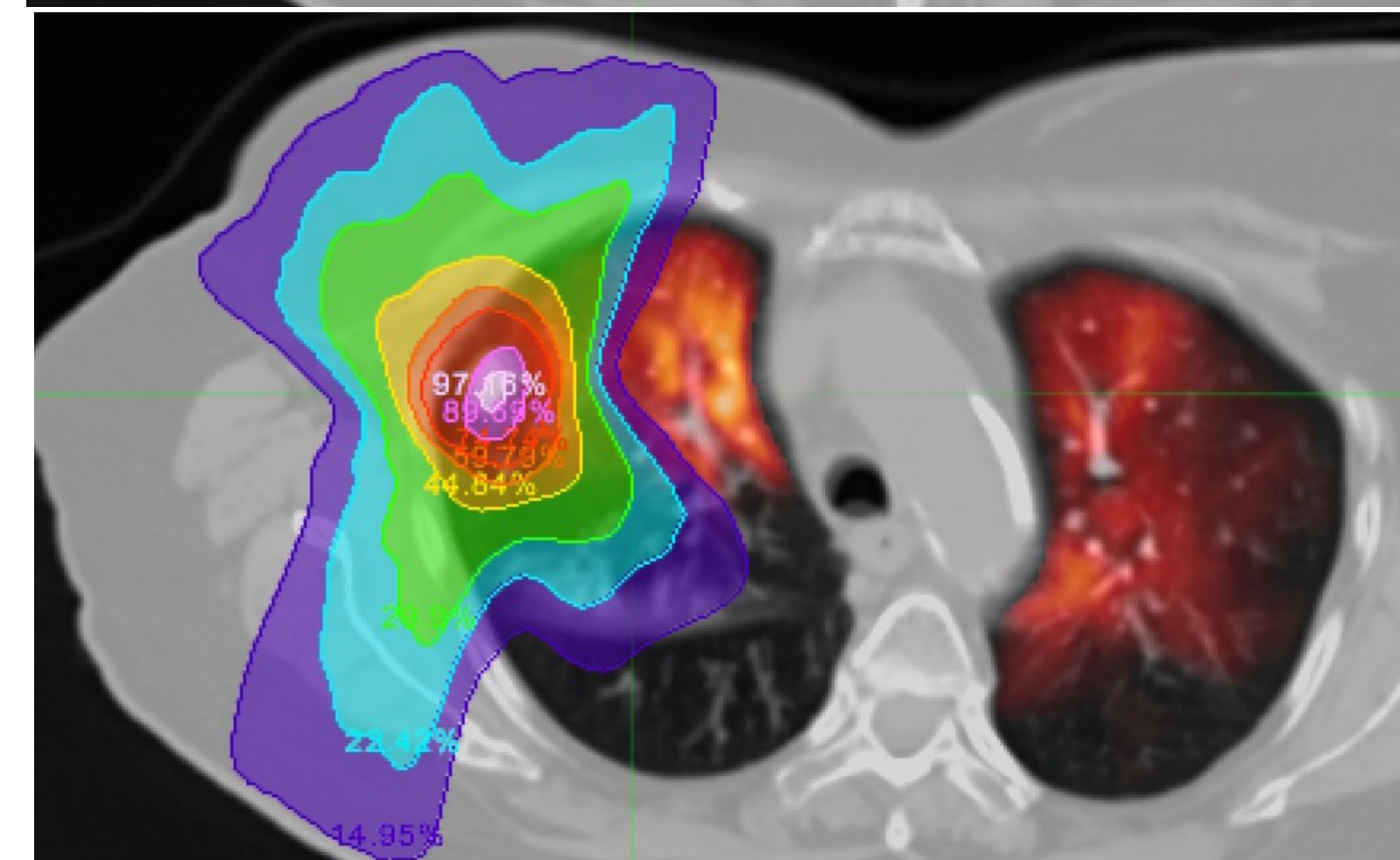
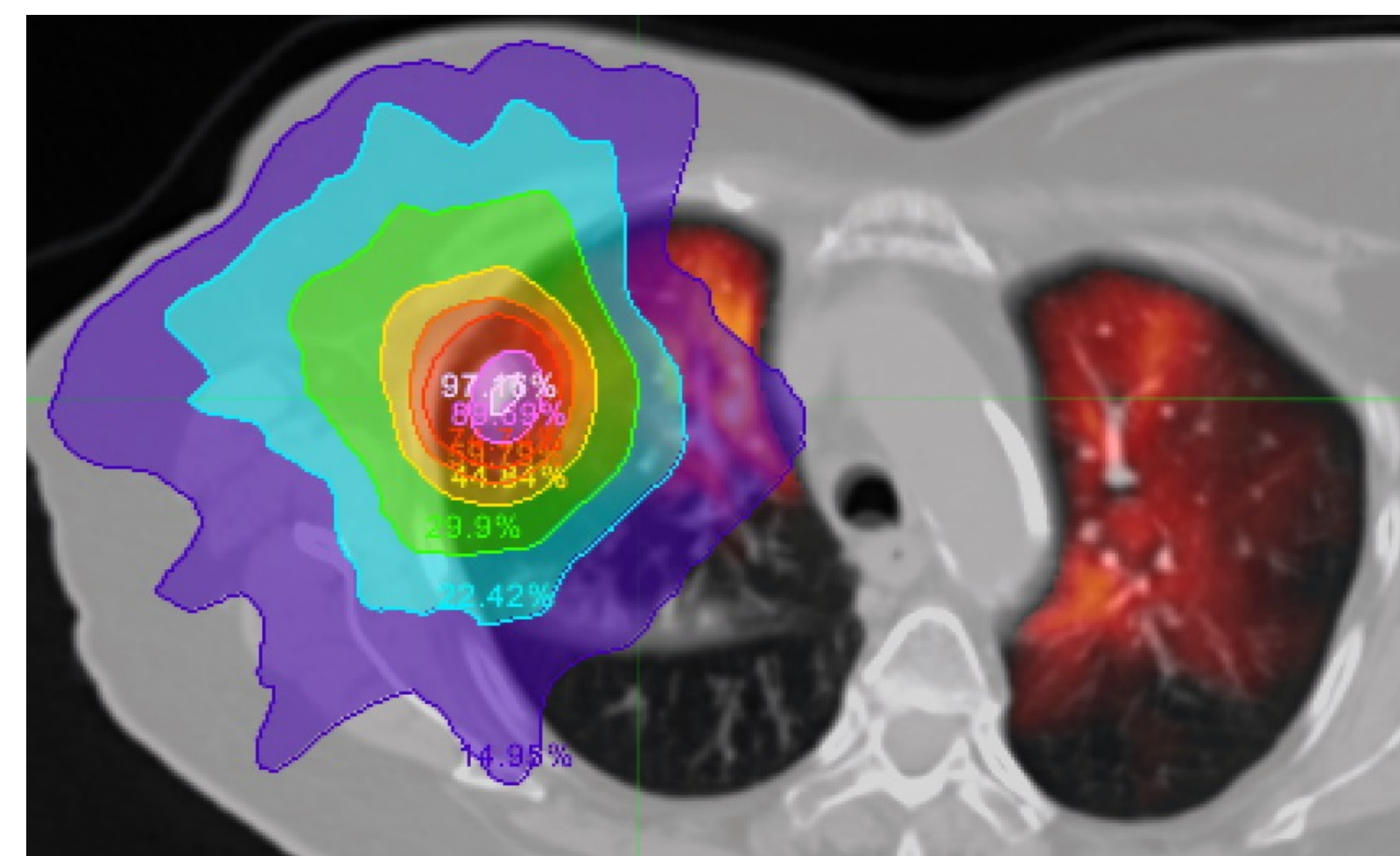


Gary E. Christensen, IEEE Fellow, AIMBE Fellow, AAIA Fellow

Image Registration

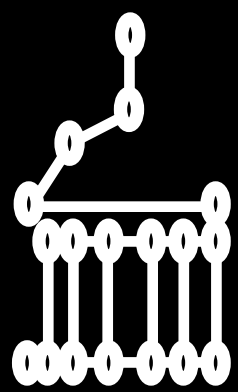


Radiation Therapy for Lung Cancer



Isodose Regions

Functional plan with lung function overlaid



Gary E. Christensen

- Joined the College of Engineering: Jan 1997
- Professor of Electrical and Computer Engineering
- Professor of Radiation Oncology
- Iowa Institute for Biomedical Imaging
- Iowa Initiative for Artificial Intelligence
- Iowa Comprehensive Lung Imaging Center
- Holden Comprehensive Cancer Center



THE IOWA INSTITUTE FOR
BIOMEDICAL IMAGING



Office Hours and Email

- Please send all email to cie@engineering.uiowa.edu
- See ICON for office hour schedule



Course grade determination and exam dates

15% Exam I

Exam I: See CIE Schedule

15% Exam 2

20% Final

Exam II: See CIE Schedule

30% Homework

10% Reading & quizzes

Spring Break: See CIE Schedule

10% Attendance

Final: TBD



Homework collection policy

- Homeworks will be submitted to SVN
- Homework will typically be due on Fridays
- Early bird: 5 points extra credit if submitted two days before deadline



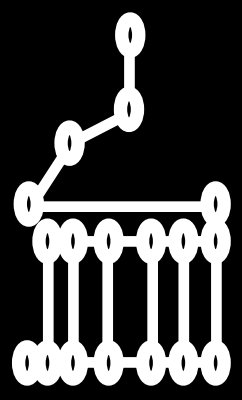
Homework collaboration policy

- Homework assignments are designed to reflect individual work
- Read CIE Cheating Policy on ICON
- Submit CIE Cheating Policy to ICON to certify that you have read and understood the policy.



Homework and the internet

- DO NOT POST SOLUTIONS TO SHARE OR PUBLICLY ONLINE. This will be considered academic misconduct and will be reported to the Dean's Office.
- You must cite any content derived from a web site.



Homework collaboration policy



MINIMUM PENALTIES:

1. 10% drop in final course grade
2. Letter to Dean



SVN Quiz

- Read the following sections of the Subversion (SVN) tutorial
https://www.tutorialspoint.com/svn/svn_life_cycle.htm
 - SVN – Basic Concepts
 - SVN – Life Cycle
 - SVN - Checkout Process
 - SVN - Perform Changes
 - SVN - Review Changes
 - SVN - Update Process
 - SVN - Fix Mistakes
 - SVN - Resolve Conflicts
- There will be a quiz on this reading assignment.



Summary

- Login to ICON. <https://icon.uiowa.edu>
- Login to SVN. <https://class-svn.engineering.uiowa.edu/cie/projects/spring2024>
- Install VDI on your computer and login. <https://engineering.uiowa.edu/etc/help-desk-computer-services/information/virtual-windows-desktop-vdi>
- Read Course Information: syllabus, schedule, TA office hours, style guide, cheating policy
- ZyBooks Textbook: subscribe through ICON
- Read Subversion tutorial
https://www.tutorialspoint.com/svn/svn_life_cycle.htm
- Read and upload Cheating Policy (on ICON)
- College Computer Support
 - In person: 1253 SC
 - Contact Help Desk: <https://engineering.uiowa.edu/etc/help-desk-computer-services>