CSCI 141: Computer Programming I

Lecture 0

Introduction, Logistics, Hello World

Today

- What is this course about?
- Why are we here?
- Who is this character?
- Some course logistics
- Let’s write some code already!

What is this course about?

- What is this course about?

- What will you learn?

What is this course about?

From the course catalog:

Basic concepts of computer programming using an object oriented programming language. Topics covered: introduction to the development environment, introduction to algorithms, elements of a programming language, including data types, packages, control structures, procedures and functions, basic input and output, arrays and records, text files, strings, variant records. Algorithm development, problem solving and software engineering are emphasized.

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What is this course about?

Computer Programming:

- data types
- control structures
- functions
- strings
- arrays

These are the “nuts and bolts”: the *syntax* and *semantics* of programming languages.

Dictionary

Search for a word

se·man·tics

/sə'man(t)iks/

noun

the branch of linguistics and logic concerned with meaning. There are a number of branches and subbranches of semantics, including *formal semantics*, which studies the logical aspects of meaning, such as sense, reference, implication, and logical form, *lexical semantics*, which studies word meanings and word relations, and *conceptual semantics*, which studies the cognitive structure of meaning.

- the meaning of a word, phrase, sentence, or text.
  plural noun: semantics

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What is this course about?

Problem Solving and Software Engineering:

- Break down and analyze problems
- Design algorithms that solve problems
- Describe algorithms in pseudocode
- Implement algorithms using clearly written, correct Python code.
- Fix errors and make changes to the code once it's written.

Computer Programming:

- data types
- control structures
- functions
- strings
- arrays

Why learn to program?

- Why do you want to learn how to program?

Why learn to program?

- Some ideas:
  - Get a job with cool perks and a high salary

Why learn to program?

- Some ideas:
  - Get a job with cool perks and a high salary
  - Automate repetitive tasks

[redacted]

to OUTDOORED-L

Hi there,

Ice cream for the fist person who can get me what I want.

Count the number of times each person's name occurs with Column A=Person's Name, Column B=# of Occurrences.

READY? GO!

Thanks,

Andrew

[redacted]

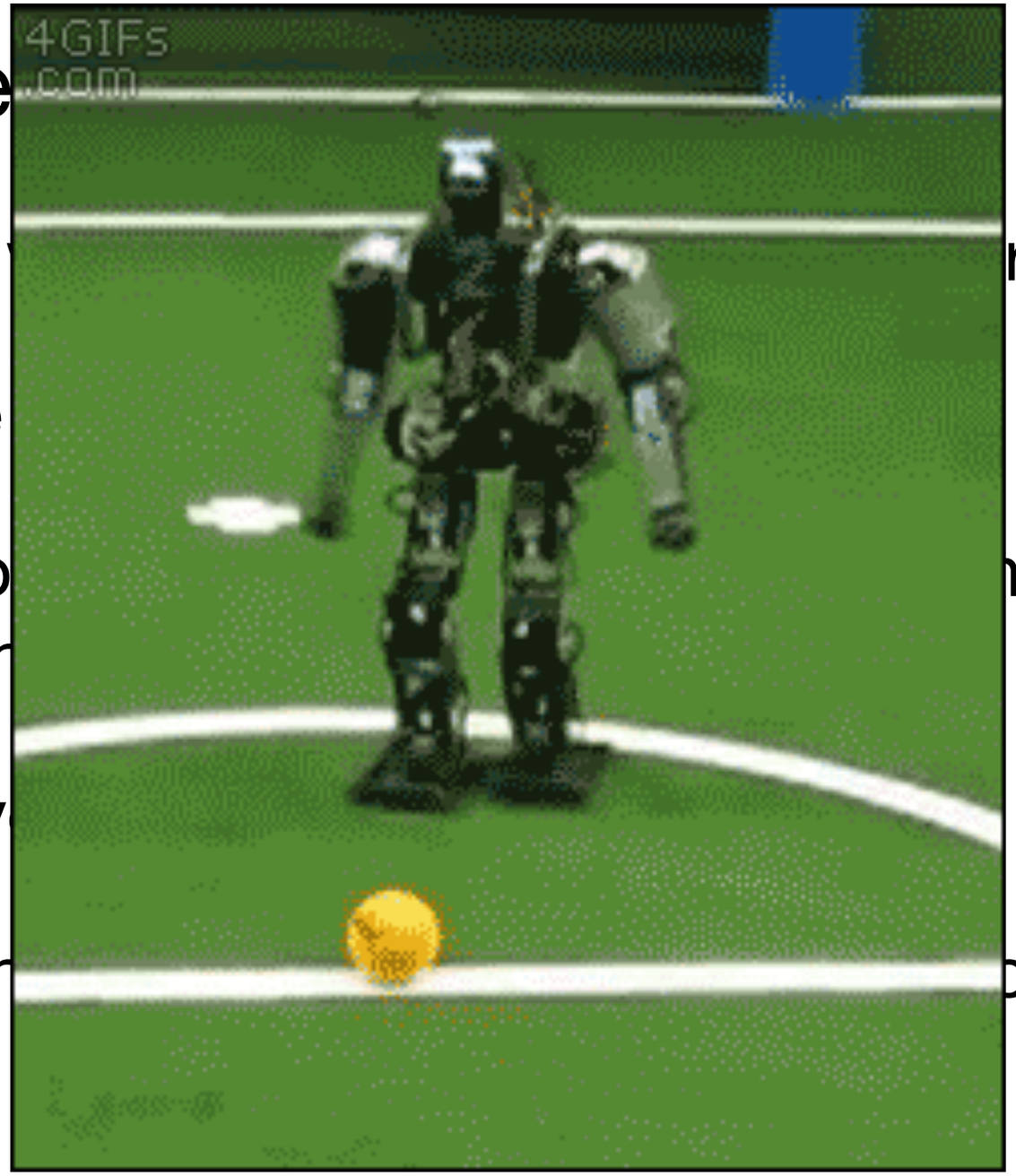
Cornell Outdoor Education

Climbing Program Coordinator

[redacted]

Why learn to program?

- Some ide
  - Get a job ry
  - Automate
  - Process o n your chosen profession
  - Execute y
  - Understan omputers you use daily
  - Make friends with our future robot overlords

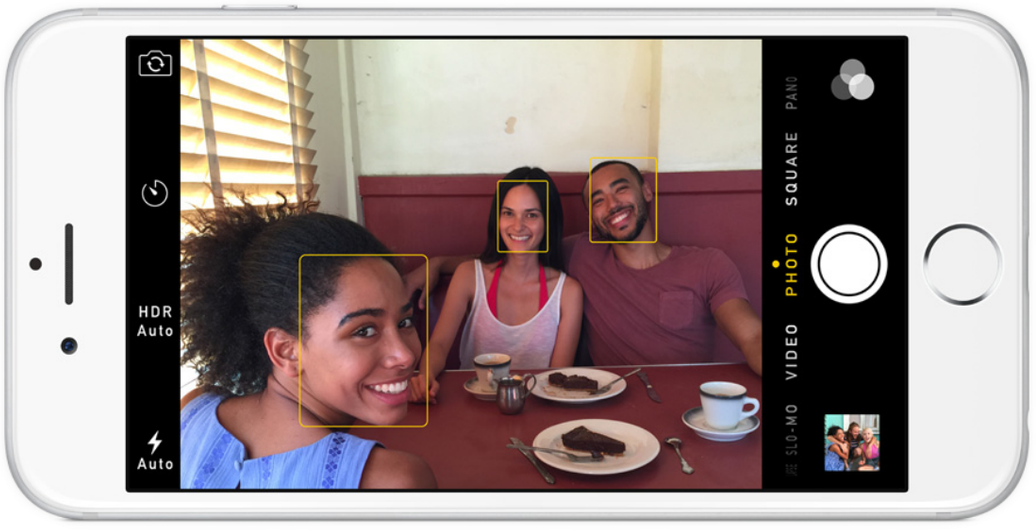


Who is this character?

About Me

Scott Wehrwein

Computer Vision: Familiar Examples



In-Camera Face Detection

Autonomous Driving

Panorama Stitching

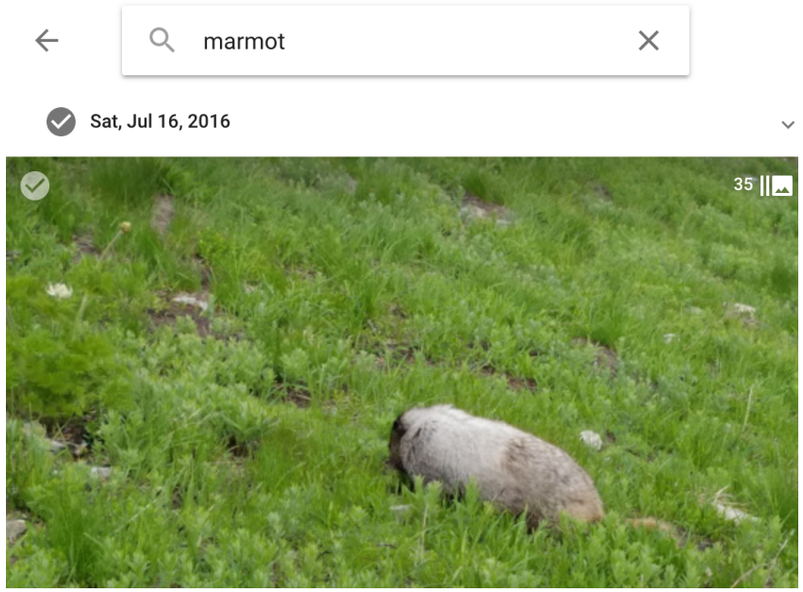


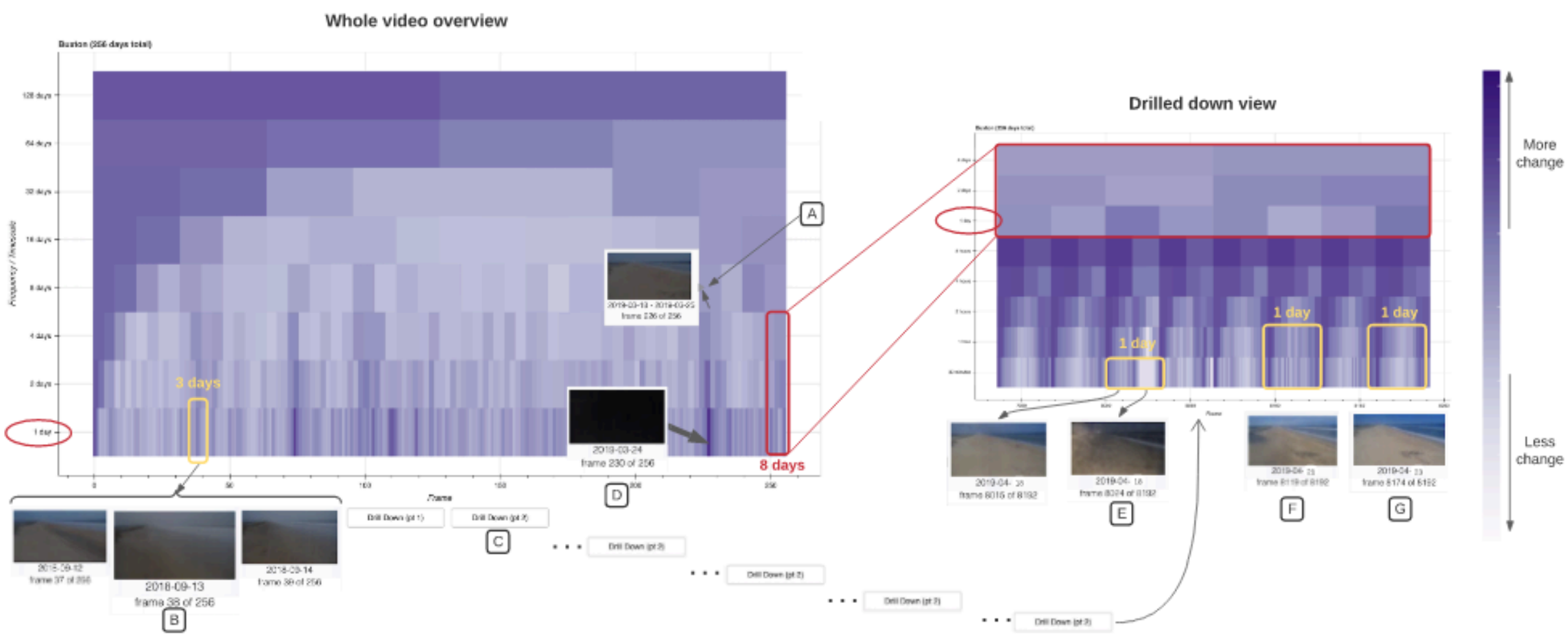
Image Search


Sage Chapel
147 Yio Plaza

Video Spectrograms for Exploration and Discovery in Long Fixed-Camera Video Streams

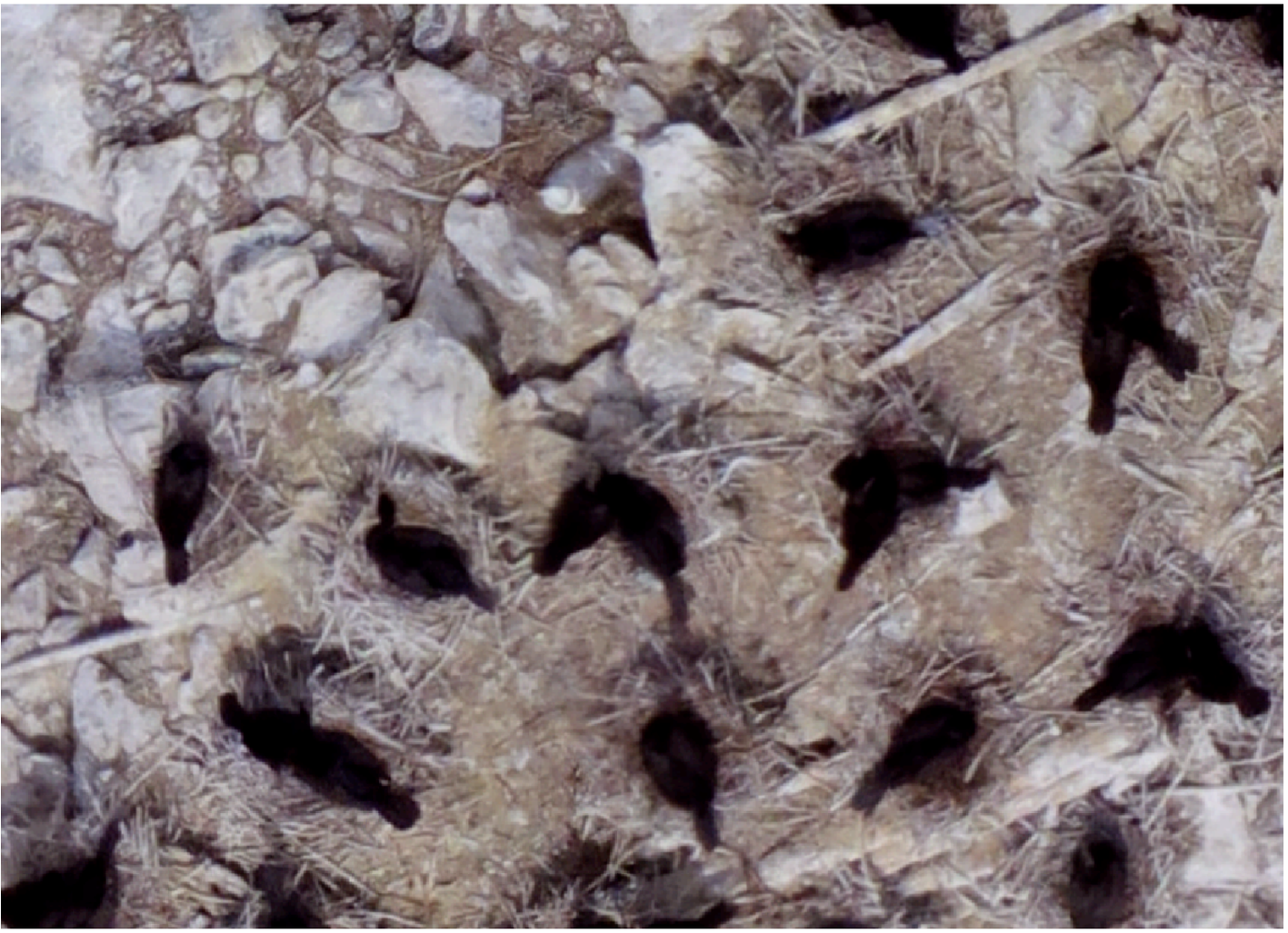
Category: Research

Paper Type: algorithm/technique

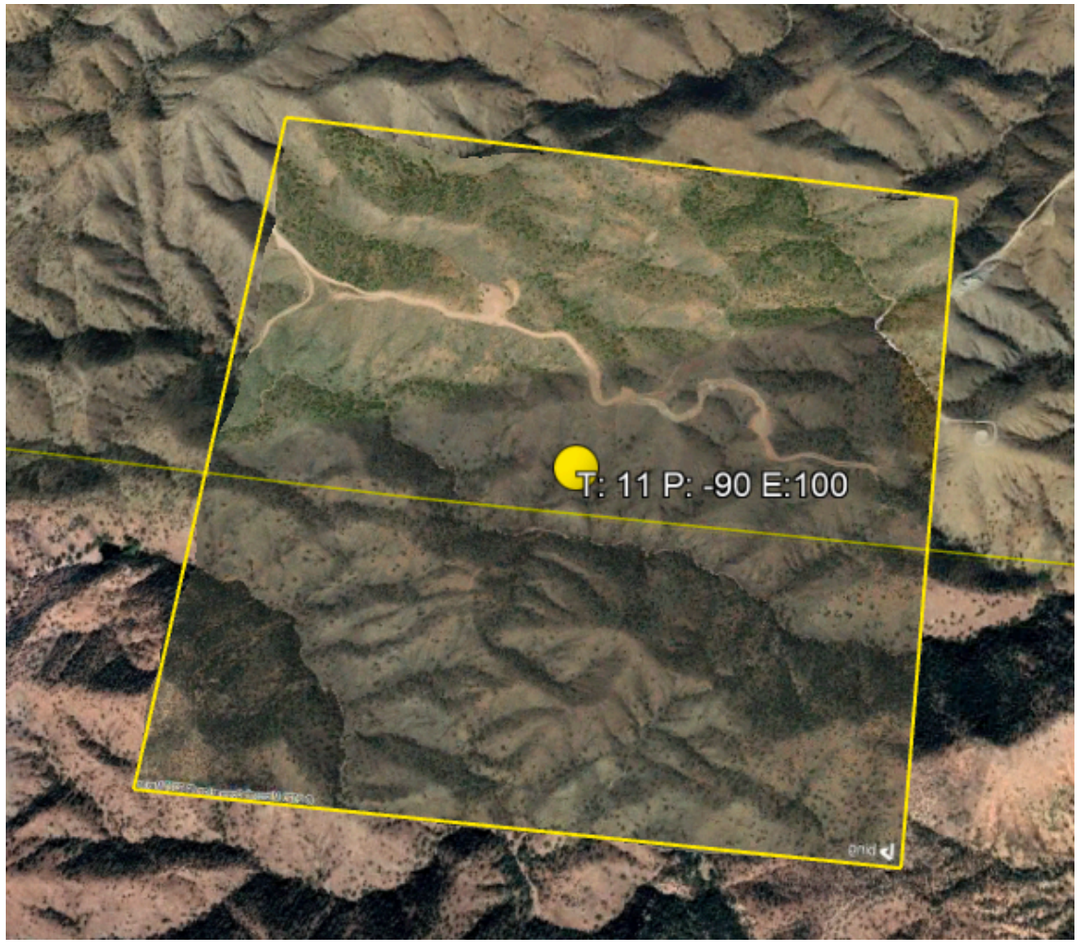


Overhead Imagery Analysis

Count birds!



Measure international border legibility!



Logistics

The syllabus is [on] the course webpage:

https://facultyweb.cs.wwu.edu/~wehrwes/courses/csci141_21s/

This link can also be found on the Syllabus page on Canvas.

CSCI 141 - Computer Programming I

Scott Wehrwein

Spring 2021

- Course Overview
- Assessment
- Resources for Getting Help and Support
- Logistics
- Schedule
- Course Policies

Course Overview

- Syllabus and Course Website (you are here): https://facultyweb.cs.wwu.edu/~wehrwes/courses/csci141_21s

Syllabus Highlights

- Flipped structure
- Assessment components
- Labs
- Schedule table
- Slip days
- Academic honesty

Your Tasks for Friday

(in brief; I will send details in an announcement by tonight)

- Read the syllabus
- Watch the lecture videos for Friday
- Work through Friday's Exercises
- Get on the class Discord server
- Find your group number

About You Survey

Survey on Canvas - fill out by Monday

- Q1: How many quarters have you been at Western?
- Q2: How many months of programming experience do you have?
- Q3: Are you planning to major in CS?
- Q4: Why do you want to take this class?
- Q5: Name one activity you enjoy outside of school.

My Expectations

Q2: How many months of programming experience do you have?

0

Some of you have prior experience, but zero is what I will assume.
We'll look at the survey results and talk more about this next time.

Let’s write some code already

- **Python** is our chosen programming language in this course.

- A programming language is a language a computer can “understand” and execute (more on what this means next time)

- We’ll use a program called **Thonny** to write our Python code.

- Thonny is an example of an “Integrated Development Environment” (IDE): a program that provides all the features you need to write, run, and fix errors in programs.

Without further ado...
Hello, world!

Hello, world!

- hello.py
- Concepts demonstrated:
  - Basic usage of Thonny
  - Comments
  - Print function
  - Single and double quoted strings