Fast*(er)* concurrent programs
CSE 333 Autumn 2025

Instructors: Naomi Alterman, Chris Thachuk

Lecture Assistant:
Soleil (aka "Sully")

Teaching Assistants:

|		
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Logistics

❖ Homework 4 due Thursday (12/4) by 11:59pm
❖ Final Exam topics / practice exams out
❖ Course Evals
  ▪ Time set aside next lecture; I hear there will be treats (food)!

❖ Molecular Computation (CSE 493) 26wi

```
int main(int argc, char** argv) {
  make_triangle_from_DNA();
  return EXIT_SUCCESS;
}
```
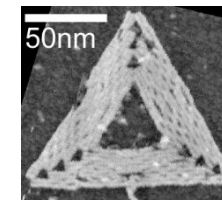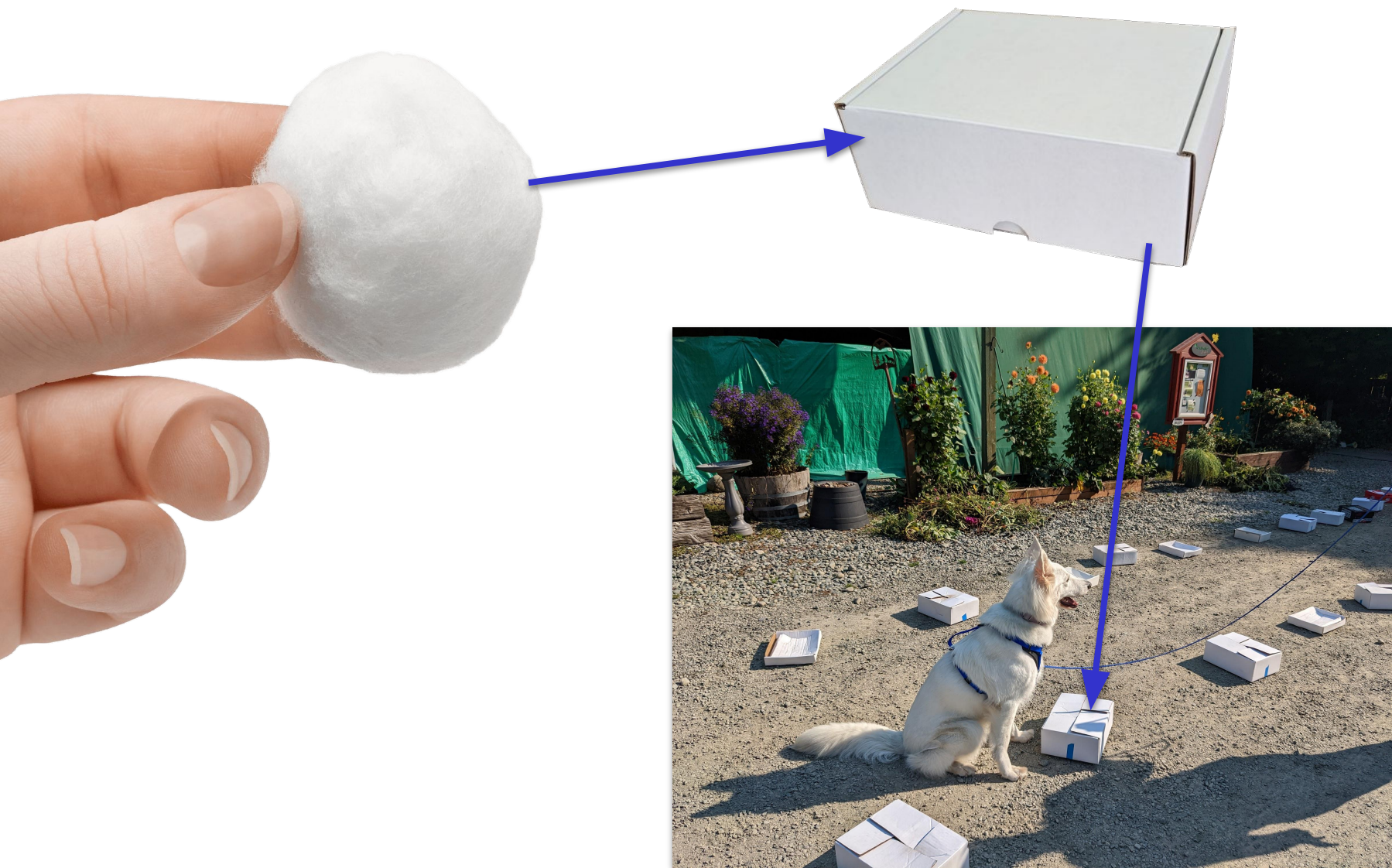
Lecture Outline

❖ **A (very brief) *tour* of concurrency options**

❖ *Challenge project?*: designing orthogonal strands of DNA
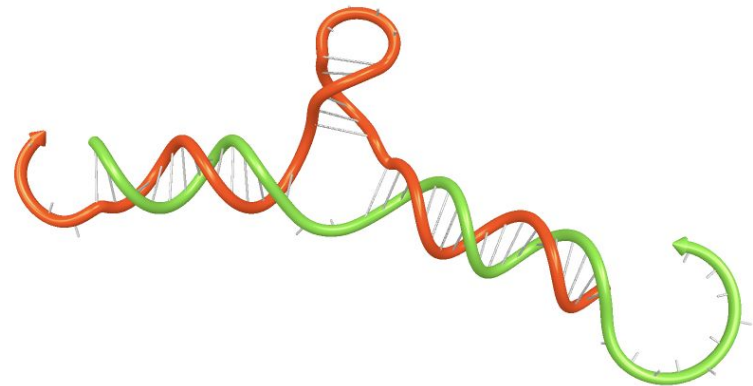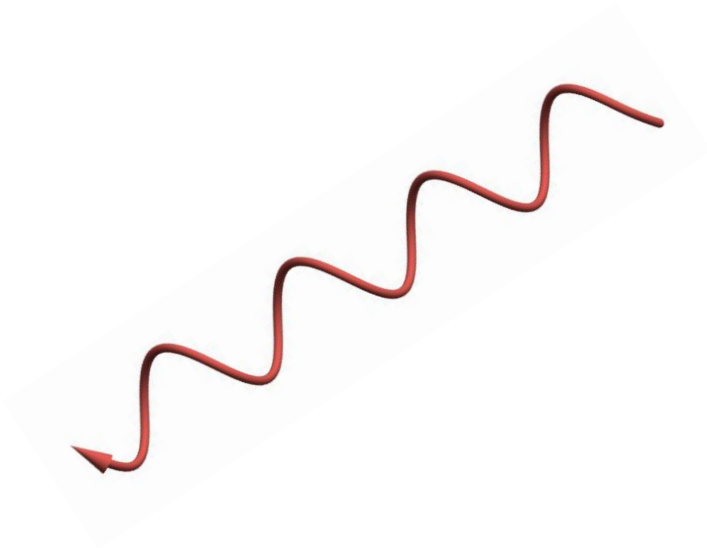
Meet our Lecture Assistant "Sully"

Sully's Avatar

Sully *(and all dogs)* have a superpower

Sully's alert behavior

Alert!

Search and Rescue *(of keys)*

She's really good, *but humble*
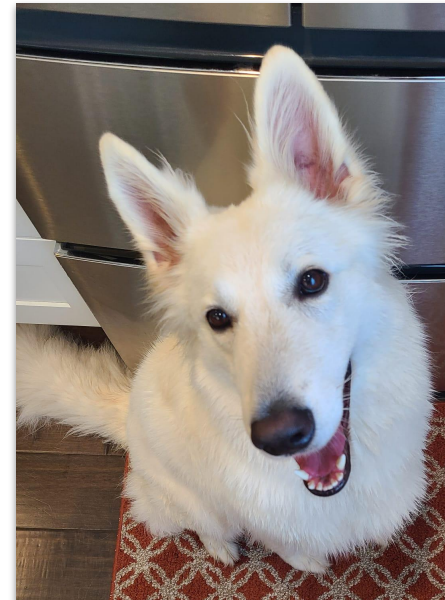
Sully will now review concurrency patterns

Watch me search!

Sully's Avatar

Random search of boxes

Linear search of boxes (#1)
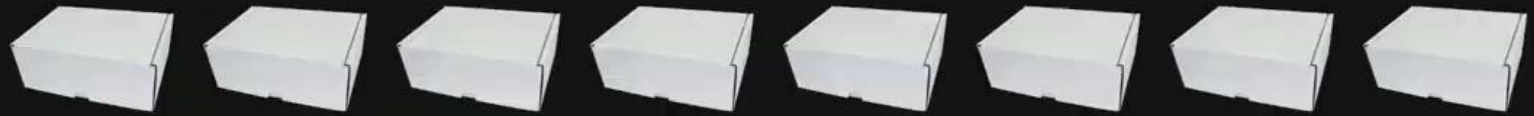
Does our model predict reality?

Multithreaded search of boxes

Multiprocessing search of boxes

SIMD search of boxes

The lecture assistant has already been paid

Remainder of lecture is a live demo