

Software Engineering

CSE870

Spring 2025

Homework 2

Due: January 29, 2025

This assignment focuses on software challenges of today and the future.

Read the article by Fred Brooks (“No Silver Bullet”) and recent articles (within the past 5-7 years) relating to automated safety-critical systems to address the following points in a 1-page essay.

Summary of Brooks article:

- What did Brooks mean by “silver bullet”?
- Summarize and contrast his meanings for the essence and the accidental difficulties of (software) technology.

Describe challenges posed by future autonomous, safety-critical systems

- Describe essential difficulties posed by these systems; explain and include concrete examples from the transportation and/or the medical sectors.
- Describe and discuss the potential accidental difficulties posed by these systems; how can these accidental difficulties be mitigated?
- What are today’s “hopes for the silver bullet” for modern-day safety-critical systems? What lessons can we learn/apply from Brooks’ article regarding these perceived “silver bullets”? (e.g., Hint: AI might be considered a “silver bullet”)