**1. What is the significance of each trend? (Vibe Coding and Renewed Focus on AI)**

Vibe coding is a new way of writing software that focuses on creativity, speed, and support from AI. Instead of using traditional, complex coding tools, it uses AI-powered environments that help developers stay focused and build faster. These tools offer live suggestions, ready-to-use code templates, and real-time collaboration features. Andrej Karpathy introduced the concept in early 2025, showing how developers can simply describe their ideas in plain language and let the AI turn them into working code (Harkar, 2025). This method supports fast testing, prototyping, and quick feedback, which is great for beginners and experienced developers alike.

The renewed focus on artificial intelligence (AI) is one of the biggest changes in the tech world. AI is now built into everyday apps, websites, and devices, helping with things like search, recommendations, healthcare, and even writing software. It’s becoming a core part of how programs are created, making them smarter and more adaptive to what users need.

**2. How will each trend change the field of computer science?**

Vibe coding will change how developers work by creating more flexible, intuitive tools. With features like voice input, real-time feedback, and visual code helpers, it lowers the entry barrier and helps people get into coding faster. It fits well with agile development and fast prototyping, which are important in today’s tech industry.

AI is changing what it means to be a computer scientist. Instead of only writing code, developers will train AI models, fine-tune systems, and focus more on how AI interacts with people. It also adds more attention to ethics, design thinking, and responsibility in tech development.

**3. How will each trend change the experience of consumers, workers, or citizens?**

Vibe coding helps workers by making the coding process faster and less stressful. Developers can focus more on ideas and less on syntax or repetitive tasks. This improves productivity and allows teams to create and update products more quickly.

AI, on the other hand, is improving apps and services in everyday life. For example, citizens can benefit from AI in healthcare (like early diagnoses), language translation, navigation, and smart assistants that understand their needs. These systems can make life easier, safer, and more personalized.

**4. How will each trend fit in with your career interests or aspirations?**

These trends connect strongly with my career goals. I want to build apps and tools that are smart, helpful, and easy for everyone to use. Vibe coding supports that by making development more intuitive and creative. However, I don’t think vibe coding is ready to be fully relied on by itself. It’s a great tool that offers a lot of options.

AI is especially exciting to me. It’s changing what’s possible in both design and development. We’ve already seen what AI can do in areas like graphics and optimization, as shown in recent events like NVIDIA’s GTC and the latest State of Unreal in Orlando. These tools show how AI can create stunning visuals, improve performance, and support real-time interactions. I’m especially interested in working in AI-powered UX design, where systems adapt to user behavior and improve over time.

**5. Which course outcomes have you achieved so far, and which ones remain?**

Throughout the course, I’ve been able to apply what I’ve learned across a range of areas. I’ve tackled technical challenges by using problem-solving strategies and tools that are widely used in the field of computer science. Making my work accessible and easy to use for different kinds of users has been a priority as well. While I still have more to explore and improve, I feel that I’ve met all the core goals of the course and made meaningful progress along the way.

**References**

Harkar, S. (2025, February). *What is vibe coding?* IBM Think.<https://www.ibm.com/think/topics/vibe-coding>

# CS 499 Sample Exemplar Status Checkpoints for All Categories

## Status Checkpoints for All Categories

| **Checkpoint** | **Software Design and Engineering** | **Algorithms and Data Structures** | **Databases** |
| --- | --- | --- | --- |
| **Name of Artifact Used** | **Artifact name:** Googletest, with display  **Origin:** CS 405: Secure Coding | **Artifact name:** BST to AVL tree  **Origin:** CS 260: Data Structures and Algorithms | **Artifact name:** Warehouse Inventory App, with FireCloud  **Origin:** CS 360: Mobile Architecture and Programming |
| **Status of Initial Enhancement** | Completed | Complete | Started |
| **Submission Status** | Completed | Completed | Submitted 6/07/2025, awaiting instructor feedback |
| **Status of Final Enhancement** | Touching up, adding one to two more features | NA | NA |
| **Uploaded to ePortfolio** | Not yet planned | Not yet planned | Not yet planned |
| **Status of Finalized ePortfolio** | Not started | Not started | Not started |