

Department of Computer Science and Engineering  
College of Engineering, University of Nevada, Reno

CS 791  
Graduate Topics in Computer Science  
[Software Engineering]

**Assignment #3**

**Selected Research Area: Resources**

September 25, 2019

<b>Due:</b>	Tuesday, October 8, 11:59 pm (by email) Single PDF file, named <a href="#">A3_YourLastName.pdf</a>
<b>Points:</b>	60
<b>Weight in course grade:</b>	6%

Select a research area with emphasis on software engineering or software, and gather resources for a background essay (the essay will be the subject of the next assignment, A#4). Examples of areas include:

- Model-driven development
- Modeling languages and notations (e.g., UML, ADLs)
- Visual computer-aided software engineering (CASE)
- Software product lines
- Software architectures
- Service-oriented architectures
- Software for data science or data engineering
- Adaptive software systems
- Software engineering for specific domains (e.g., computer games, embedded systems, automotive industry, virtual reality, mobile applications, website development, medical/health applications, military domain, education and training, and so on)
- Software tools and environments (you can particularize the tools for specific activities, e.g., data science, scientific research, advanced manufacturing, robotics, project management, software design, automated code generation, automated testing)
- Software frameworks
- Software API
- Any other software-related area approved by the instructor

Research the topic and provide the following:

**1. Overview of the topic [20 points]**

Describe what the topic (area) is about, what are its distinguishing characteristics, and what are its main challenges or directions of research & development. Briefly describe several (3 or 4) significant related accomplishments or developments in the selected area. Also, indicate also why the topic is important for your own studies [recommended: 300 – 500 words].

## **2. Resources [40 points]**

Search and find background resources pertaining to the topic. Provide information about them. Specifically, provide at least 20 items (each with a brief description of 50 to 120 words), with at least two for each of the following categories:

- Relevant journal articles
- Relevant conference papers
- Related websites
- Major research labs and/or organizations
- Important books on the topic
- Major current projects going on at other universities, research labs, or industry organizations
- Major software tools and/or applications
- Other (e.g., related online courses, technical reports, PhD or MS theses, sets of slides, videos, etc.)