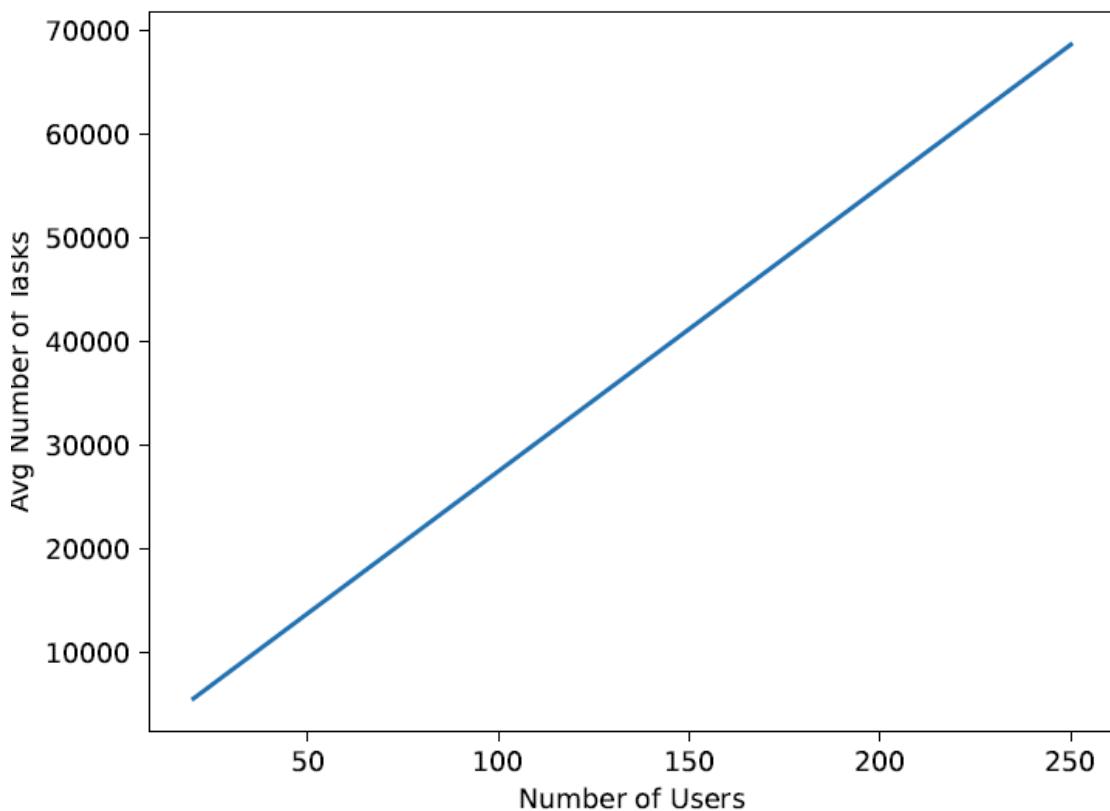


## **Simulation Parameters**

- Number of Users: [20, 250]
- Number of Servers: [4]
- Number of UAVs: [0, 20, 100]
- UAV Waiting Policy: [100]
- UAV Radius: [100]

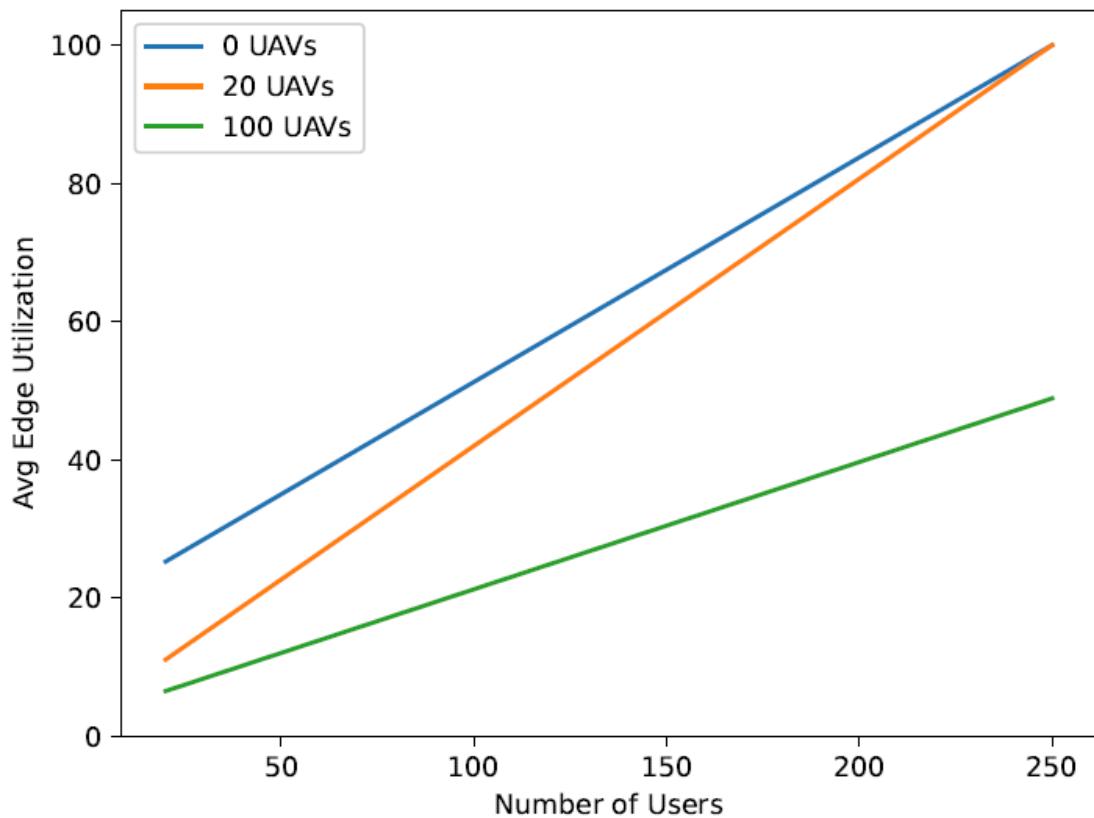
## 1. Total Number of Tasks

- The total number of tasks increases proportionally with the number of users.
- As the user count reaches 250, the number of tasks scales up to nearly **70000**.



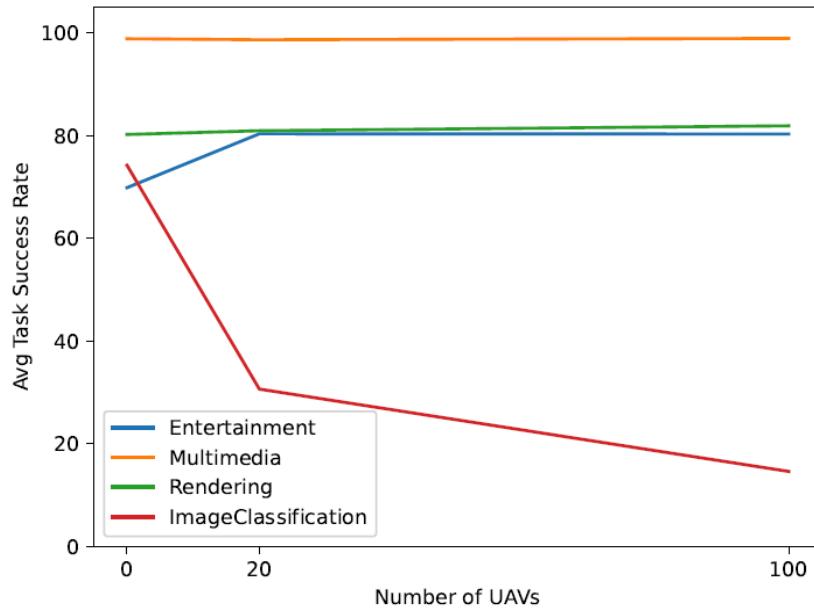
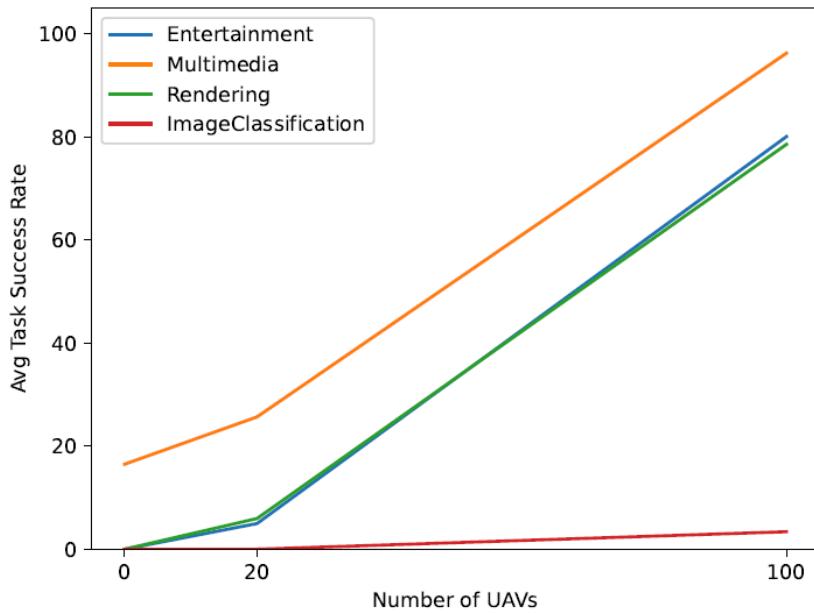
## 2. Edge Utilization

- Edge utilization shows a positive correlation with the number of users.
- With 0 UAVs, utilization peaks earlier. Introducing 20 or 100 UAVs reduces edge server congestion, demonstrating UAVs' role in load distribution.



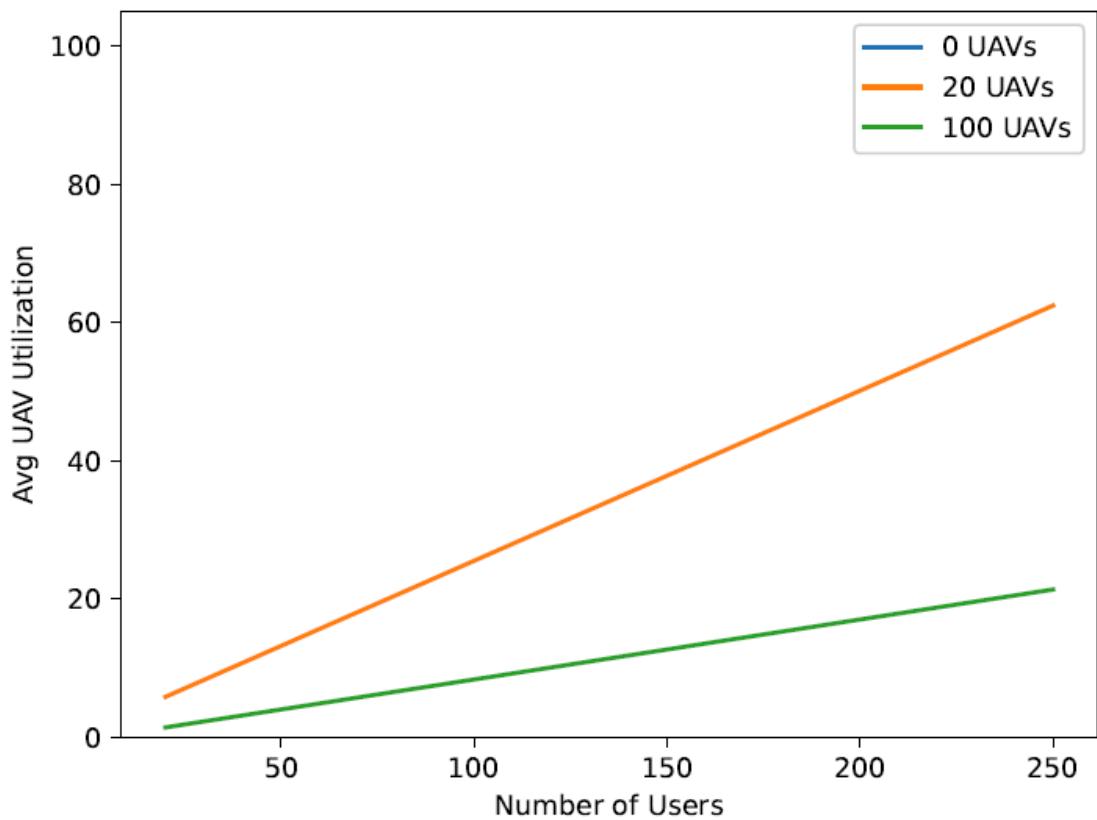
### 3. Task Success Rate

- Task success rate decreases as user count rises due to system overload.
- The deployment of UAVs improves success rates significantly, with the highest success rate achieved using **100 UAVs**
- **Multimedia** applications show relatively higher success rates across different UAV deployments.
- **Entertainment and Rendering** tasks have moderate success, while **Image Classification** shows low success rates due to its high computational demands.



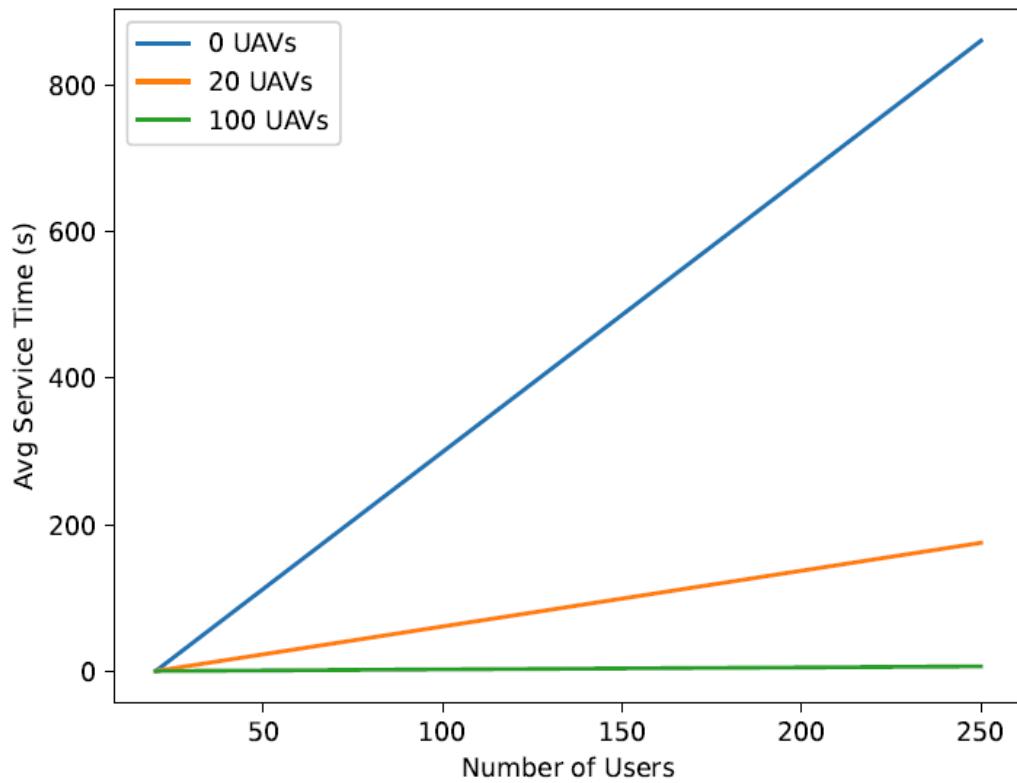
#### 4. UAV Utilization

- UAV utilization climbs with increased users, but UAV saturation becomes evident beyond certain thresholds.
- More UAVs result in balanced resource allocation and improved efficiency.



## 6. Average Service Time

- Without UAVs, service time rises sharply with user count.
- Adding UAVs improves response times, notably with **100 UAVs**, which effectively minimizes delays.



## 7. Offloaded Task Percentage

- With **0 UAVs**, the majority of offloaded tasks are handled by edge servers or the cloud
- Deploying **20 UAVs** shifts the load significantly toward UAVs, reducing the burden on edge servers
- With **100 UAVs**, UAVs become the dominant offloading destination, enhancing task success rates and system stability

