2025 IEEE Metaverse Grand Challenge for Simulation-Based Learning

IEEE Metaverse
IEEE FUTURE DIRECTIONS
IEEE young professionals

IEEE
Advancing Technology for Humanity

Further Reading and Tutorials

- **Building a Metaverse Platform: Tools & Frameworks Guide**
  An in-depth guide covering essential steps and tools for creating a metaverse platform.
  📎 Read the guide: https://github.com/M3-org/awesome-metaverse
- **Metaverse Development Tools**
  A comprehensive list of tools to assist developers in building, testing, and deploying metaverse applications.
  📎 Explore the tools: https://github.com/topics/metaverse-tool?o=asc&s=stars
- **How to Develop for Metaverse? Skills, Technologies, Tools**
  An article discussing the necessary skills and technologies for metaverse development.
  📎 Learn more: https://link.springer.com/article/10.1007/s10639-023-12167-9

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Tap Into Student-Friendly Compute Platforms

Google Colab
•Provides **NVIDIA K80 or Tesla T4 GPUs**, free to use (sessions up to 12 h)
•Ideal for quick experiments, prototyping, and educational work
https://colab.research.google.com/

Google Cloud Skills Boost
Students can request **200 free credits**, valid for 1 year, for hands-on labs and training.
https://cloud.google.com/edu/students

AWS SageMaker Studio Lab
Free JupyterLab-based environment with **GPU (Tesla T4)** and ~15 GB storage
Sessions last up to 12 h CPU / 4 h GPU
SageMaker Studio Lab

Tap Into Student-Friendly Compute Platforms

Microsoft Azure for Students
Provides **$100 credit** and 12 months of free services with your school email
Credit can be used for GPU-enabled VMs, Azure Machine Learning, etc.
Azure for Students – Free Account Credit | Microsoft Azure

IBM Cloud
New accounts receive **$200 credit** and access to 40+ always-free "Lite" services
Provides paid GPU and AI accelerator instances (NVIDIA, AMD, Intel)
IBM Cloud

Kaggle Kernels (Notebooks) with Free GPU – At a Glance: https://www.kaggle.com
GPU Provided: NVIDIA Tesla P100 (16 GB VRAM)
RAM: ~13 GB
Max Runtime per Session: 9 hours
Idle Timeout: 60 minutes
Weekly GPU Limit: ~30 hours
How to Enable: In notebook → "Settings" → Set **Accelerator = GPU**
Best Use: Training models in chunks (e.g., 10 epochs), saving checkpoints

For any questions or concerns, please contact isemv@ieee.org

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