

NSF Proposal Guide for Google Cloud

Applying to a [CloudBank-eligible National Science Foundation \(NSF\) solicitation](#) and need proposal support as you request Google Cloud funding? Read on for all the info you'll need to submit your proposal.

Background

When applying for an NSF solicitation, Principal Investigators (PIs) submit both a Main Budget Request, which covers all non-cloud costs, and a Supplementary Document, which covers cloud costs.

To complete the Supplementary Document, you will need to detail:

01

Anticipated annual and total costs for accessing the requested cloud computing resources.

02

Technical description of, and justification for, the requested cloud computing resource

Guidance

01

Anticipated annual and total costs for accessing requested cloud computing resources

- Utilize our [Google Cloud Pricing Calculator](#) to estimate the costs for the cloud resources you are requesting.
- Reach out to [Google Cloud's higher education team](#) to get support from your local representative in developing your estimate.

02

Technical description of, and justification for, requested cloud computing resources

- Provide a concise summary of how the cloud computing resources will be utilized in executing the proposed research and a calculation of the core hours required using the [Google Cloud Pricing Calculator](#) (see example below).

More tips

- Include "CloudAccess" (one word without space) as a keyword on the Project Summary page, at the end of the Overview section (before the section on Intellectual Merit) to ensure your funding is distributed via [CloudBank](#) instead of through your institution.
- Benefits of receiving your funding through CloudBank include:
 - ◆ No indirect costs: Funds that go through CloudBank are free of indirect costs, maximizing the value of NSF awards.
 - ◆ Facilitated cloud access and account management: Cloud accounts are provisioned quickly, and allow access to Cloud Console with familiar credentials, and sharing access with collaborators.
 - ◆ Monitoring and resource usage optimization: Spending is monitored across multiple clouds and triggers automated email balance alerts. Cost optimization recommendations detect unused or underutilized resources.



Looking for more help?

Review CloudBank's [Preparing your CloudBank Resource Request](#) page.

Sample budget

	Price per unit	Number	Total price
Non-preemptible VM (core hours)	\$0.05	1.2M	\$60,000
Preemptible VM (core hours)	\$0.01	36M	\$360,000
Persistent disk - standard (TB month)	\$40.00	135	\$5,400
Cloud Regional Storage (TB month)	\$26.00	240	\$6,240
Networking/Disk transfer (TB)	\$1.00	3000	\$3,000
		Total	\$434,380

Sample technical description and justification

We will employ cloud resources to accomplish three goals:

1. study of sensorimotor thalamocortical circuits (~85% resources),
2. study of auditory thalamocortical circuits (~10% resources), and
3. cloud-based modeling software tool (~5% resources). This will involve running large-scale detailed brain circuit simulations, each requiring up to ~100k neurons.

Table 1 details the estimated core hours required to carry out the proposed goals. We have based our estimates on our Phase 1 experience using GCP to run similar tasks. We have included the estimated number of simulated biological seconds ('sim secs') for each component of the project. We have multiplied this by the scale of the model in each stage (assuming scale 1 corresponds to 10k neurons and 30M synapses). Finally we estimated ~96 core hours are required for one simulated second at scale 1. This estimate takes into account the average speed-up expected from using low-latency placement groups and the more efficient coreNEURON back-end simulator.

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