

OptiMiner - Team 8

*Smarter Bitcoin Mining with Cloud Spot
Instances and Data Centers*

Ajitesh Nair

Akamai

UIUC

<https://github.com/Ajitesh27/OptiMiner>

The Problem

- Bitcoin mining is expensive and inefficient
- Data centers consume power 24/7 — not always cost-effective
- Cloud spot instances are up to 90% cheaper, but unreliable
- Bitcoin price and mining difficulty change constantly
- How do you decide where to spend your mining budget right now?

Our Goal

Maximize BTC profit per dollar spent by intelligently splitting hourly budget between datacenters and cloud spot instances.

What Is OptiMiner?

OptiMiner is an intelligent system that:

- Takes an hourly mining budget
- Fetches live market data (AWS spot prices, BTC price, difficulty, power cost at each DC location)
- Calculates expected profitability per compute unit
- Uses a reinforcement learning agent to choose the optimal allocation between in-house datacenters and cloud spot instances for max profitability
- Simulates AWS scaling calls to scale your compute