Kevin Shu

Ph.D. Student, Algorithms, Combinatorics and Optimization
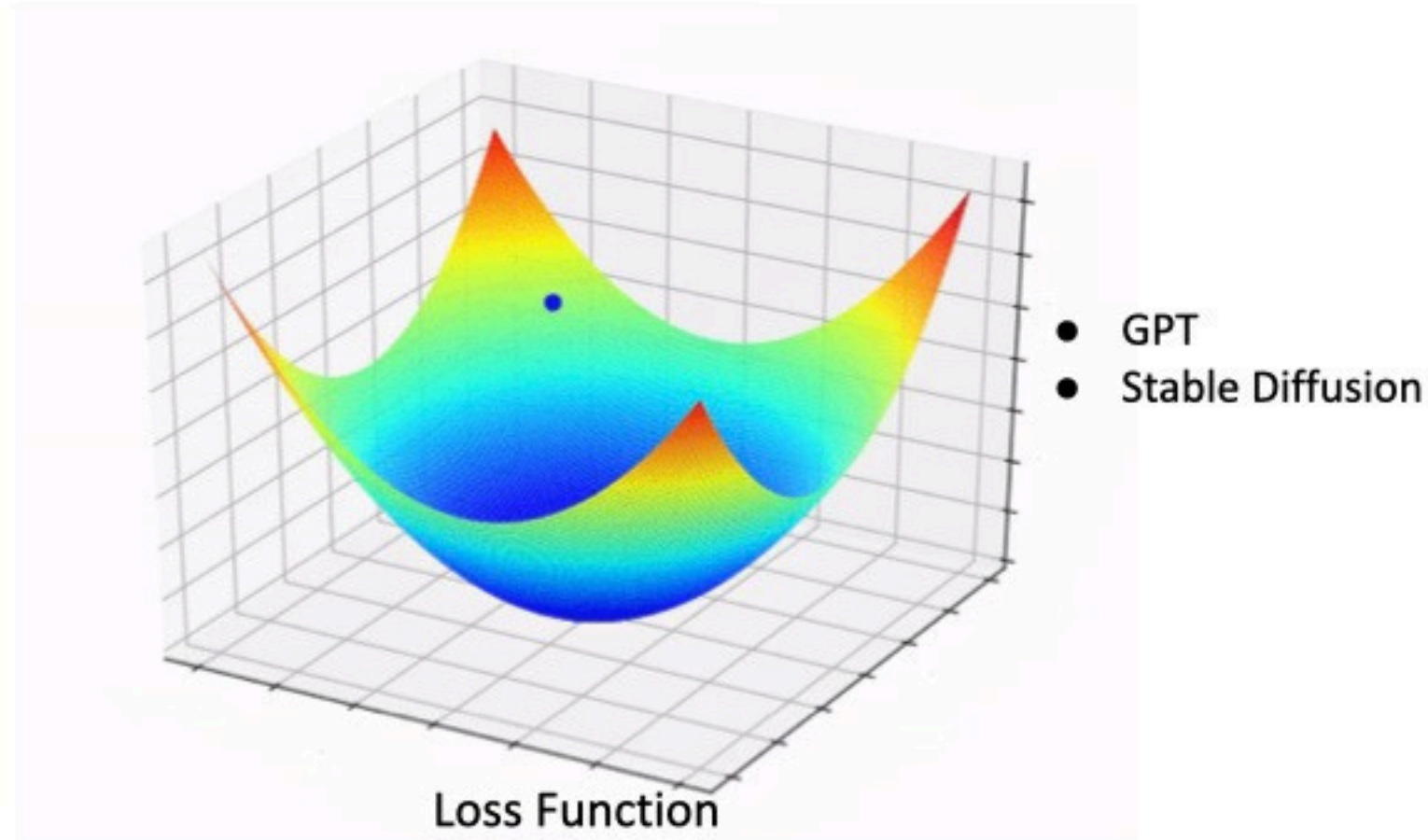**Third Year ARCS Scholar**
Hardin/Turk/ARCS Award

Georgia Tech

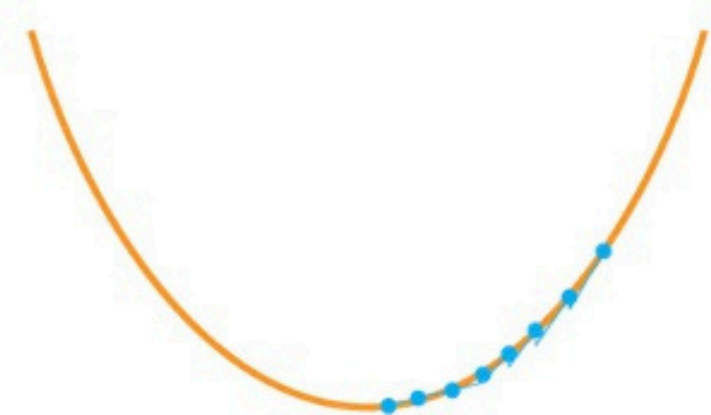# Accelerated gradient descent with long steps

We're making fundamental tools in data science faster using math.

Machine Learning

- GPT
- Stable Diffusion
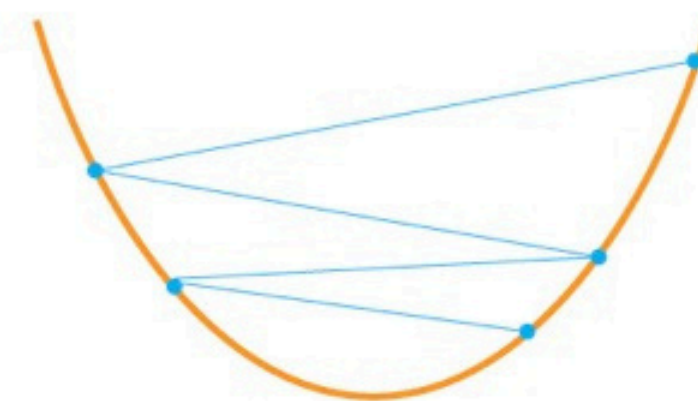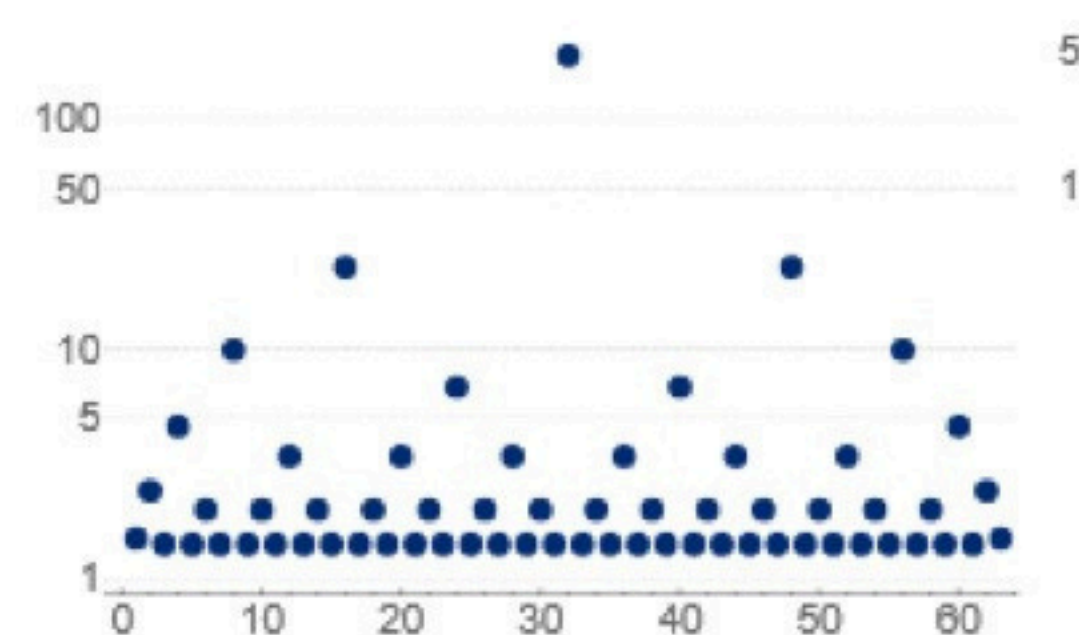
Loss Function

Gradient Descent

Training Algorithm

Too Small - Slow

Too Big - Doesn't Stop

Alternating Sizes - Faster Descent

The best sequence of step sizes is fractal.

Scholar Awards Celebration
November 15, 2023

ARCS
SCHOLAR AWARDS CELEBRATION
ARCS FOUNDATION ATLANTA

Igniting
Innovation
in Georgia