A photograph of three rock climbers silhouetted against a large, reddish-brown rock formation at dusk or dawn. The sky is a pale blue-grey, and a thin crescent moon is visible in the upper right. The climbers are positioned vertically along a crack in the rock, with one at the top, one in the middle, and one at the bottom. The title text is overlaid on the right side of the image.

Predicting Rock Climbing Route Popularity

Kaitlyn Zeichick



Outline

- 1) Context
- 2) Data
- 3) Methods
- 4) Results
- 5) Conclusions and Next Steps

Context

- What is a climbing route?
- What counts as “popular”?
- Why would someone want to identify features of popular climbs?



MOUNTAIN
PROJECT

Routes in Yin and Yang Cliff

Show All Routes ▾

L ▾ R

R ▾ L

A ▾ Z

- ☆☆ Miniwanka T 5.7
- ☆☆☆ Sport Wanker
Extraordinaire T
5.11+
- ☆☆☆ Shortwank T 5.10+
- ☆☆☆ Bigwank T 5.9
- ☆☆☆☆ Yin and Yang T 5.11a
 - ☆☆ Zoroaster T 5.6 X
- ☆☆☆ Atman T 5.10a
 - ☆☆ Budda's Corner T 5.7
- ☆☆☆ Renewal T 5.10c
- ☆☆ Boxing Day T 5.8 R

Order Wrong? [Sort Routes](#)

More About Atman

[Printer-Friendly](#)[All Locations](#) > [Nevada](#) > [Southern Nevada](#) > [Red Rock](#) > [01-Calico Basin](#) > [Kraft Mtn Area](#) > [Yin & Yang Cliff](#)

Atman

5.10a

YDS

POPULARITY

☆☆☆ Avg: 3.1 from 405 votes

Type: Trad, 40 ft (12 m)
FA: unknown
Page Views: 18,903 total · 97/month
Shared By: [AJ](#) on Dec 31, 2004 · [Updates](#)
Admins: [Justin Johnsen](#), [Larry DeAngelo](#), [Aaron Mc](#)

You & This Route 405 Opinions

Your To-Do List: [Add To-Do](#) · [View List](#)

Your Star Rating:

Your Difficulty Rating: -none- [Change](#)Your Ticks: [Add New Tick](#)

-none-

⚠ **Access Issue:** Red Rock RAIN AND WET ROCK: The sandstone is fragile and is very easily damaged when wet. [Details](#) ▾

Description

The nice vertical handcrack on the right side of the crag. A classic shorty.



Audience

- People who bolt routes
- First ascensionists



Source: Climbing Magazine



Features

Rating

Comments

Number of nearby routes

Votes

Difficulty (grade)

Sport/Trad difficulty

Height

Safety

Grade difference nearby routes

Pitches

Commitment

Type of climb

Photos

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Type of climb

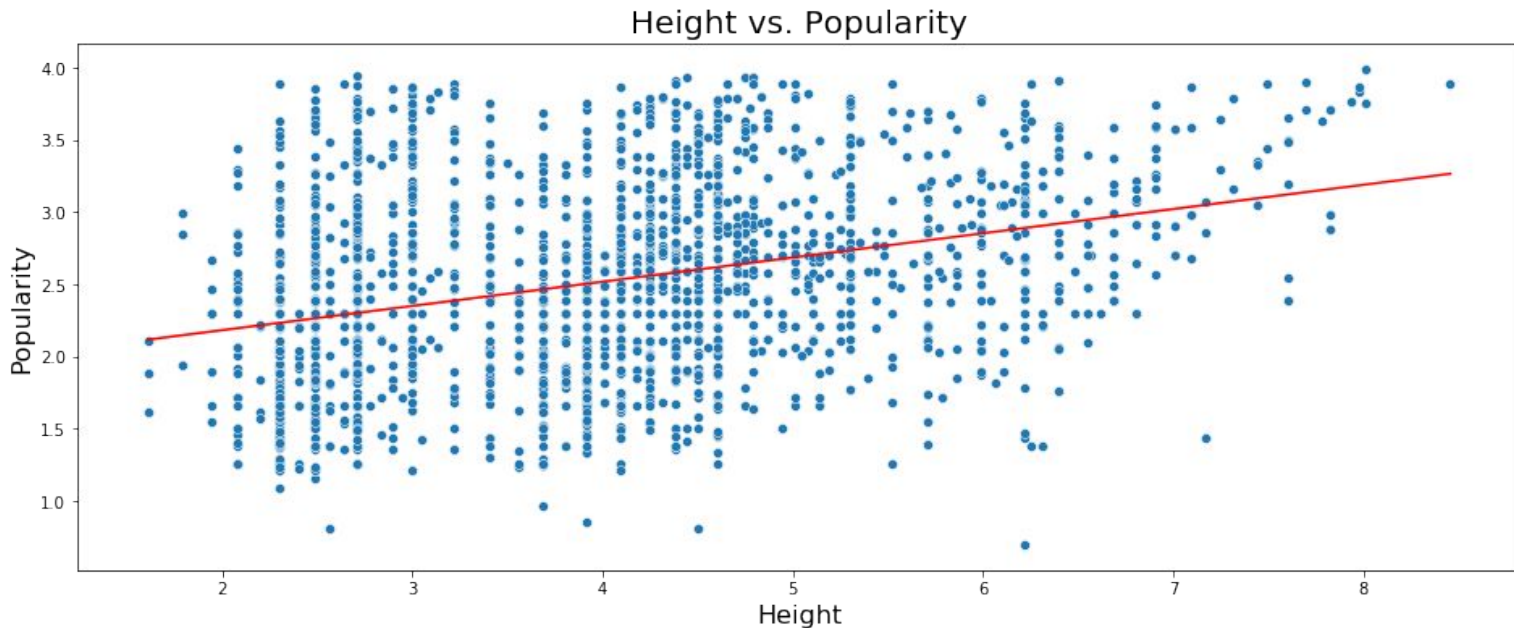
Photos

Aid Grade

$R^2 = .10$ (as only feature in model)

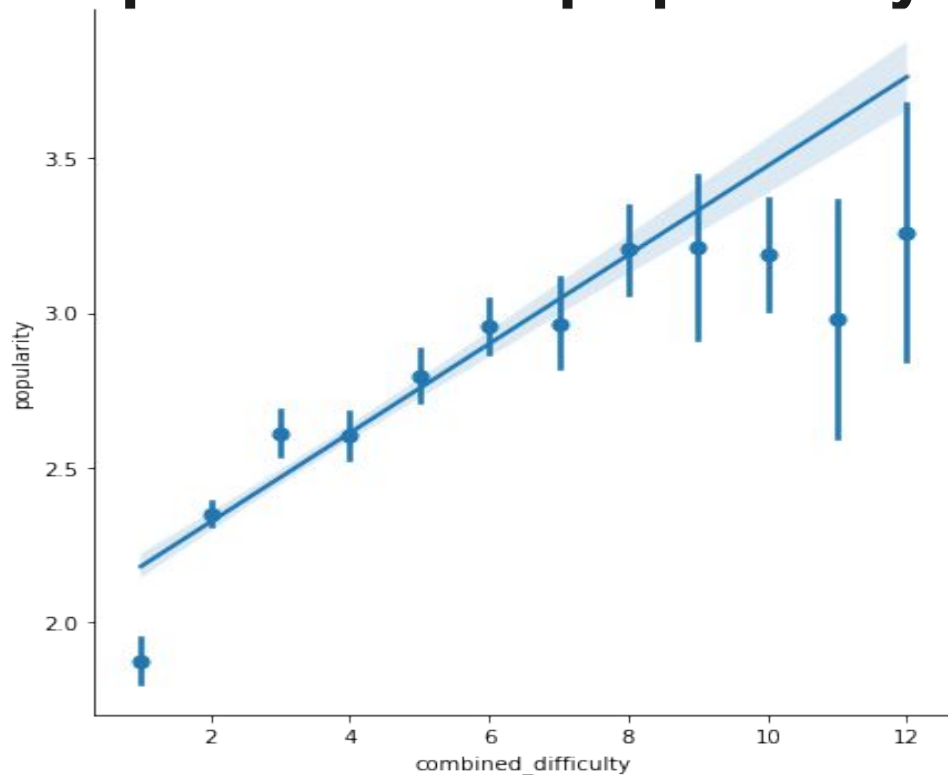
Coefficient in final model: .24

Height is a good predictor of popularity



Difficulty is a good predictor of popularity

- $R^2 = .18$ (as only feature in model)
- Coefficient in final model: .18



The type of climb is somewhat of a good indicator of popularity

- .01 increase with type of climb as features
- Types of climbs with non-zero coefficients:
 - Aid: .15
 - Alpine: .14
 - Boulder: -.14





Results

- $R^2 = .39$
- Root Mean Square Error = .52



Conclusions and Future Work

- Tall, difficult routes are more popular than short, easy routes.
- Alpine and aid climbs are more popular.
- Boulders are less popular.

Future work:

- More features!
 - Quality of the rock
 - Type of rock
 - Types of holds
 - Moves and holds



Thank you!

Questions?