Project Proposal:

Surviving a Startup or: How I Learned to Stop Worrying and Love the Fund

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- **Basic Info.** The project title, your names, e-mail addresses, UIDs, a link to the project repository.

` Surviving a Startup or: How I Learned to Stop Worrying and Love the Fund

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https://github.com/AnishAnamProjects/data-vis

- **Background and Motivation.** Discuss your motivations and reasons for choosing this project, especially any background or research interests that may have influenced your decision.

    Two of us are in a startup and one of us is going to soon join the industry, so we were wondering if choosing a startup was the right decision, given the risks involved. Or alternatively, would you see a better return on investment if you spent your time in a regular corporate job where the pay is more stable but the chance to grow is limited? We chose this project to find a simple way to visualize the advantages and disadvantages of each path, and potentially even find out conditions for when one is objectively better than the other.

- **Project Objectives.** Provide the primary questions you are trying to answer with your visualization. What would you like to learn and accomplish? List the benefits.

    "What are the advantages and disadvantages of joining a startup vs an average CS job in any state?" and "Under what conditions is one objectively better than the other?" are the primary questions for this project which we plan to answer with visualizations. Another question we hope to answer is "What is the minimum % of equity you would need on average in order to make your position in a start-up worth more than a regular job?"

    The benefits include giving graduating CS students an idea of which path to take to industry and provide simple evidence for why that is the case. It should ideally display the risks associated with both paths and the chance for growth on average in terms of pay (of course, job satisfaction would also be a nice metric to study, but it's doubtful we will be able to find reliable data for that).

- **Data.** From where and how are you collecting your data? If appropriate, provide a link to your data sources.

  https://www.kaggle.com/datasets/manishkc06/startup-success-prediction (922 data points)

  https://www.kaggle.com/datasets/yanmaksi/big-startup-secsees-fail-dataset-from-crunchbase - Startup Success Evaluation (66368 data points)

  https://collegescorecard.ed.gov/data/ - Contains avg salary info for college graduates.


- **Data Processing.** Do you expect to do substantial data cleanup? What quantities do you plan to derive from your data? How will data processing be implemented?
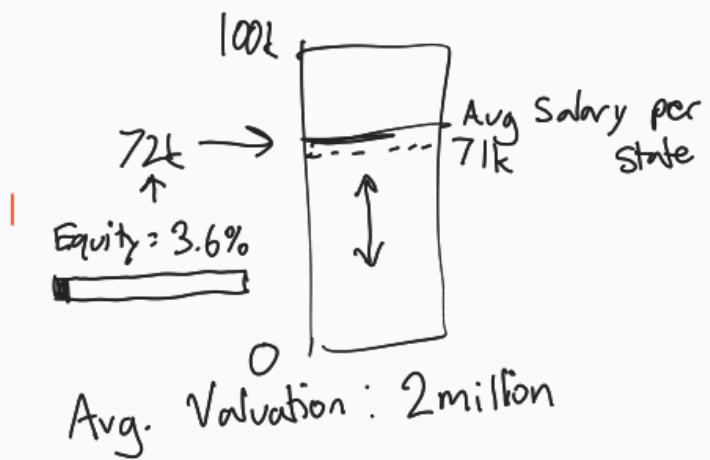
  For data cleanup we plan to ignore missing values and identify outliers, while not necessarily excluding them from the data (aside from when we calculate averages).

  The primary quantities we aim to derive from the data include average salaries, success rates of startups, and compensation trends over time.
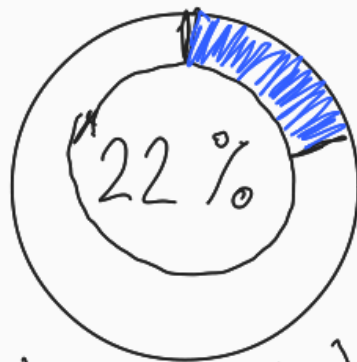
  Data processing will be implemented in Python using libraries like Pandas for data manipulation and cleaning, with Matplotlib for visualizations.

- **Visualization Design.** How will you display your data? Provide some general ideas that you have for the visualization design. Develop **three alternative prototype designs for your visualization**. Create **one final design that incorporates the best of your three designs**. Describe your designs and justify your choices of visual encodings. We recommend you use the Five Design Sheet Methodology.

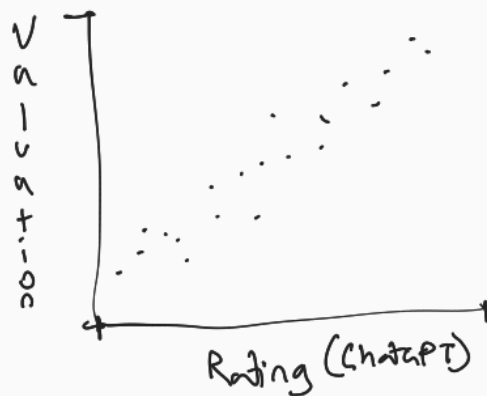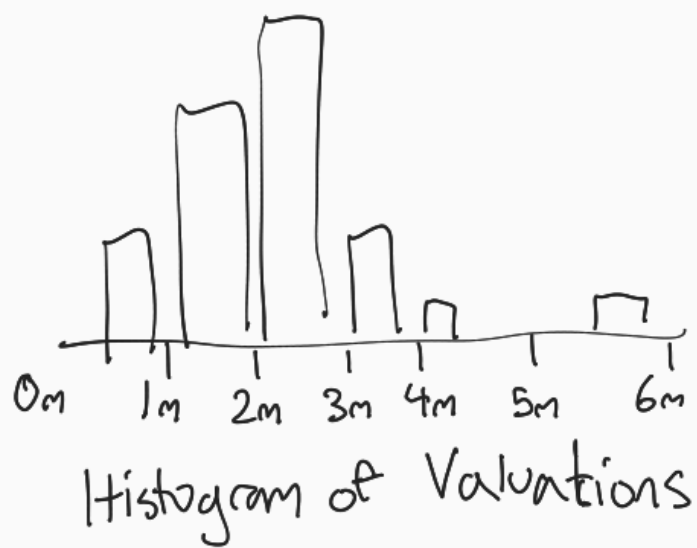  Key Visuals:

SUCCESS %

28%

Avg. Salary
100k

Equity: 2.25%

90k

Avg. Valuation: 4M

USA

2%

%

%

25%

%

3%

%

%

%

20%

%

%

8%

5%

% of Total Startups in each State

100k

72k →

Avg Salary per state
71k

↑

Equity: 3.6%

Avg. Valuation : 2million

0

Success %

22%

(Aquiled + Operating) / Total

Histogram of Valuations

(x-axis: 0m, 1m, 2m, 3m, 4m, 5m, 6m)



Valuation (y-axis)
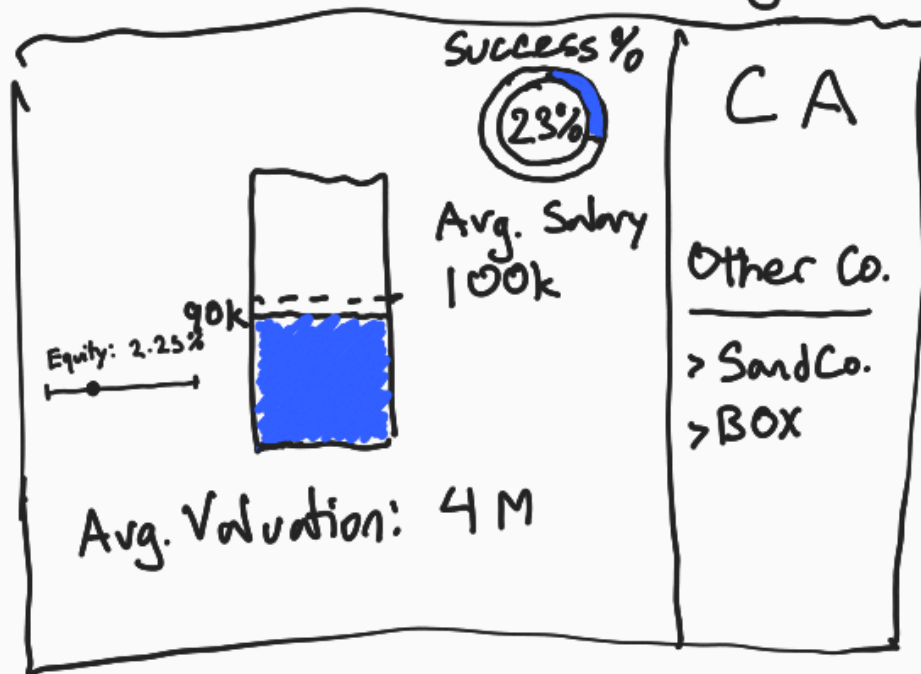
Rating (ChatGPT) (x-axis)

Chat GPT rates Names
&
we see if it correlates with
valuation

Alternate Prototypes:



Select

↓ New Page

SUCCESS %

(23%)

Avg. Salary
100k

90k

Equity: 2.25%

Avg. Valuation: 4M

C A

Other Co.
‾‾‾‾‾‾
> SandCo.
> BOX

UTAH

Success    avg fund

40%    50%

Equity → Salary

Avg Salary

Equity

Valuation

Good Name Relation



6%   8%
3%
7%
7%
2% 3%

Details | Heat map | Rating

California

34% Success rate

2.6 avg. funding rounds

$12M avg. valuation

better than 49 states

Equity Comparison
Avg Salary

100k

$4M
Avg.
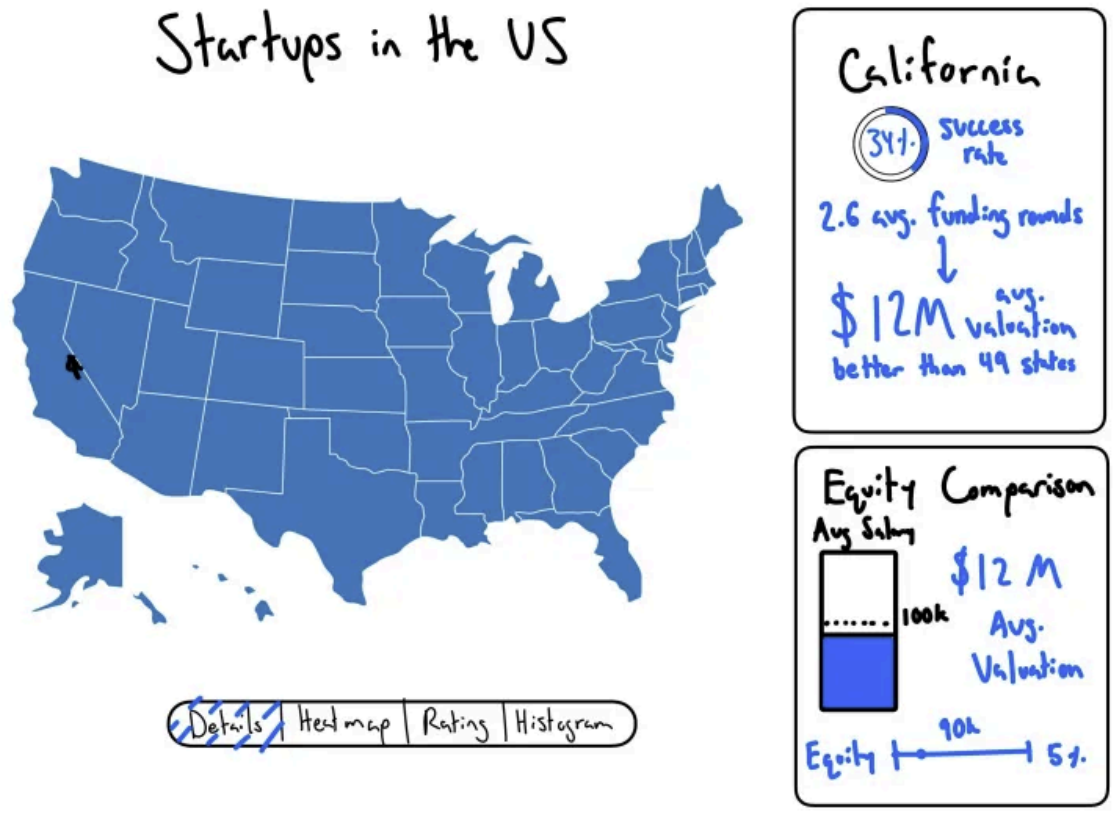Valuation

90k
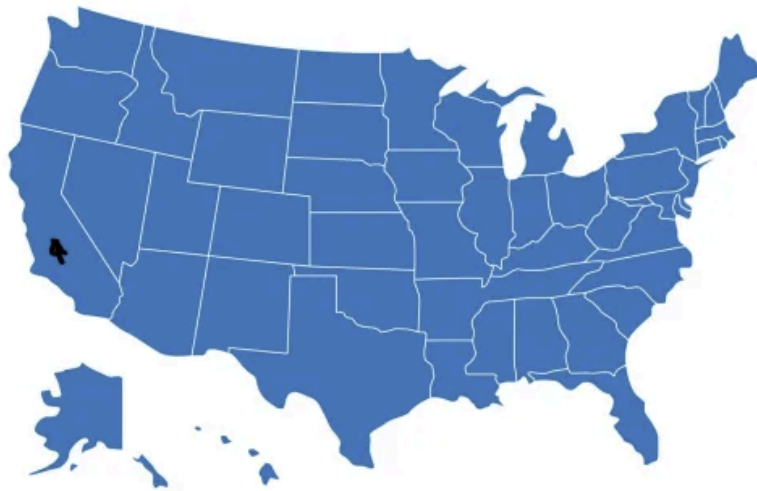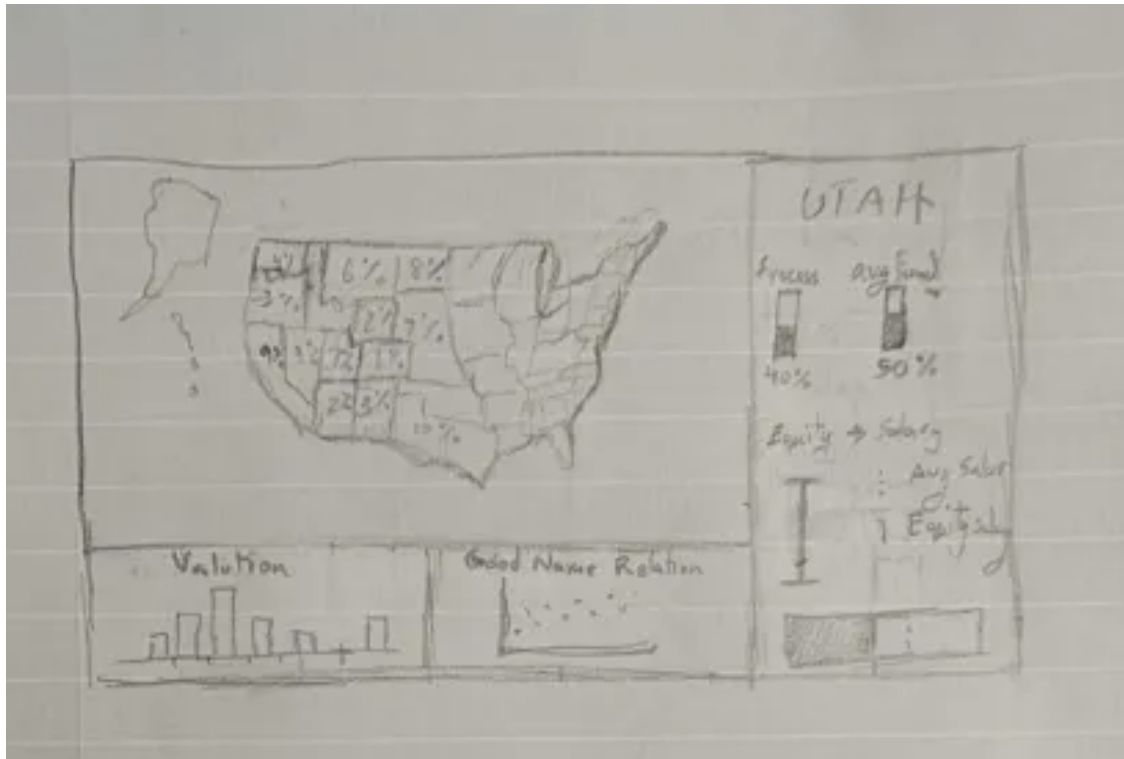
Equity ⊢———⊣ 5%

Final Design:



- **Must-Have Features.** List the features without which you would consider your project to be a failure.

  Probability of Success in a Start-Up

  Start-up Valuation by State

  Equity comparison to average salary per state

  Heatmap of startup count in each state

  Scatter Plot of the correlation of the rating of names given by ChatGPT to valuation of the companies

  Histogram: x-axis are the buckets of total funding, and the y-axis represents the number of startups that fall into the bucket.

- **Optional Features.** List the features which you consider to be nice to have, but not critical.

Job Satisfaction Comparison (Does money = happiness?)

Amenities offered by Startup vs Companies.

Funding Round Visual

- **Project Schedule.** Make sure that you plan your work so that you can avoid a big rush right before the final project deadline, and delegate different modules and responsibilities among your team members. Write this in terms of weekly deadlines.

  *Week 1-2 (9/16 - 9/29):*

  - *Data collection from the specified sources.*
  - *Initial data exploration.*
  - *Begin cleaning the data.*

  *Week 3-4 (9/30 - 10/20) (Extra Week Because Fall Break):*

  - *Prototype visualizations based on initial data.*

  *Week 5-6 (10/21 - 11/3):*

  - *Refine the visualizations.*
  - *Answer the primary questions using the visualizations.*

  *Week 7-8 (11/4 - 11/17):*

  - *Finalize visualizations and create the final dashboard.*
  - *Write the project report.*
  - *Create the presentation.*

  *Week 9-10 (11/18 - 12/1):*

  - *Hopefully, have a completed project and instead spend time studying for finals.*
  - *If not, then complete the project report and finalize the presentation.*

  Responsibilities will be divided based on a weekly basis.