

# Testing Report

## Key Metrics

```
In [1]: import pandas as pd
import matplotlib.pyplot as plt
import numpy as np
```

```
In [2]: date_time = '2022-09-26_15.15.03'
log_file = f'logs/{date_time}.csv'

header_info = pd.read_csv(log_file, nrows=0)
print('Reading test log with Settings:')
for col in header_info.columns:
    print(' ', col)
```

Reading test log with Settings:  
 Duration: 30  
 Cameras: 2  
 Stitching Algorithm: OpenCV

## Sample Images

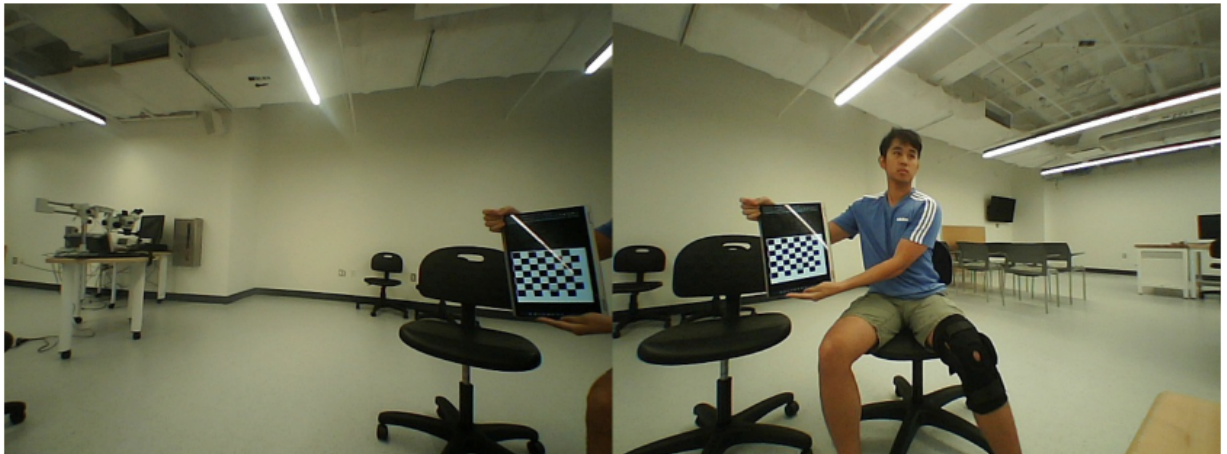
```
In [3]: num_cameras = int(header_info.columns[1][-1])

from PIL import Image
import matplotlib.pyplot as plt

frames = [np.asarray(Image.open(f'logs/{date_time}_frame{i}.jpg')) for i in range(num_

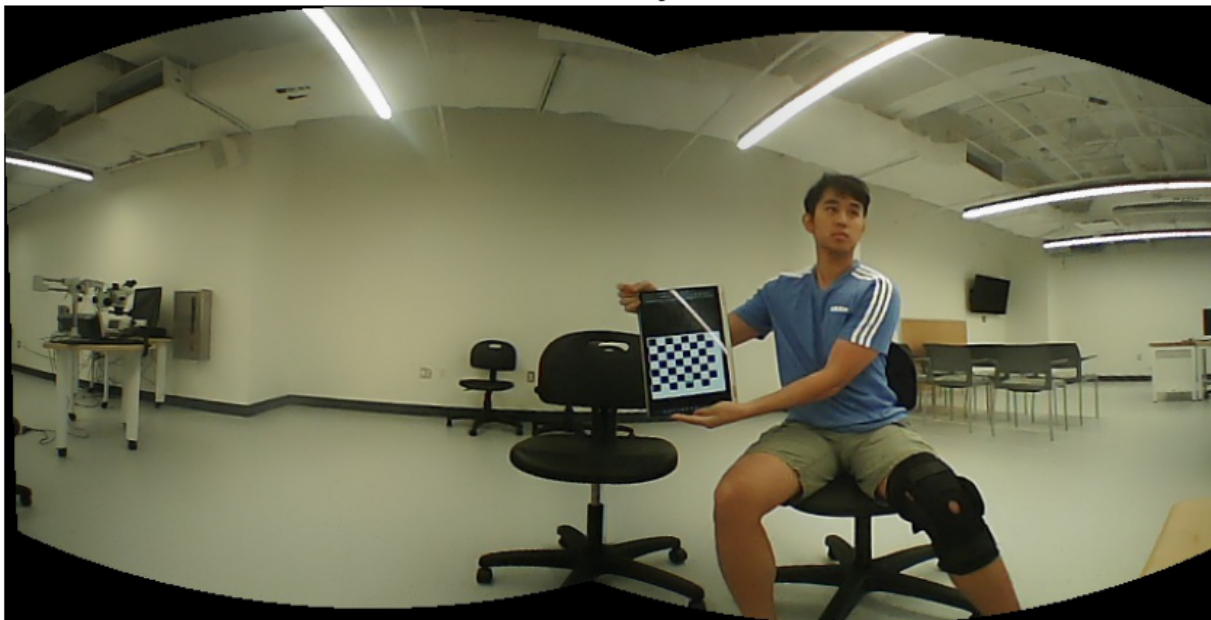
plt.rcParams['figure.figsize'] = [15, 10]
plt.axis('off')
plt.title('Raw images')
plt.imshow(np.concatenate(frames, axis=1));
```

Raw images



```
In [4]: plt.axis('off')
plt.title('Stitched image')
plt.imshow(np.asarray(Image.open(f'logs/{date_time}_stitched.jpg')));
```

Stitched image



```
In [5]: df = pd.read_csv(log_file, skiprows=[0])
df.head()
```

```
Out[5]:
```

	Start Time	End Time	Status
0	2510.421184	2510.593025	1
1	2510.597030	2510.790976	1
2	2510.793915	2511.237677	0
3	2511.275823	2511.694608	0
4	2511.697549	2511.989723	1

## Successful Stitch Times

```
In [6]: successful_stitches = df[df['Status'] == 0]
successful_stitches.head()
```

```
Out[6]:
```

	Start Time	End Time	Status
2	2510.793915	2511.237677	0
3	2511.275823	2511.694608	0
19	2515.629448	2516.041723	0
20	2516.044597	2516.460307	0
22	2516.605291	2517.008636	0

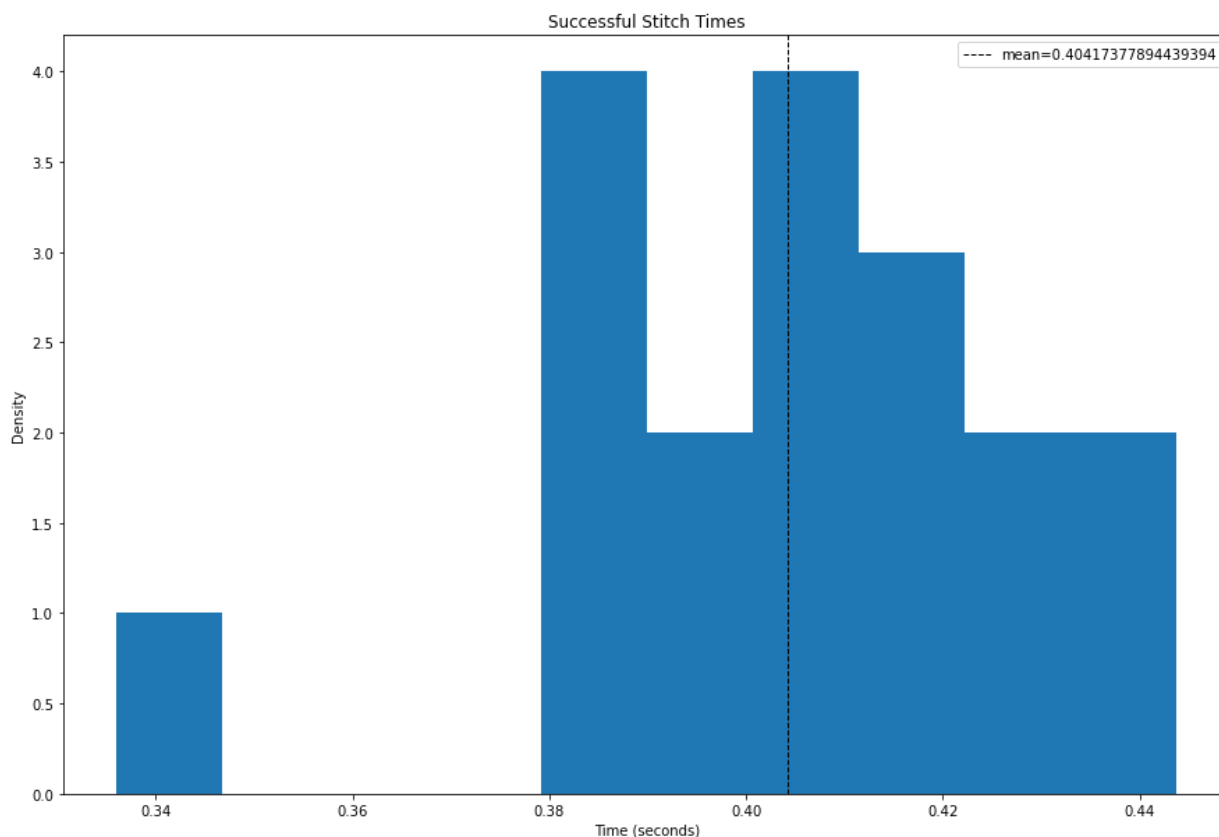
```
In [7]: stitch_times = successful_stitches['End Time'] - successful_stitches['Start Time']
print("Successful Stitch Time Statistics")
stitch_times.describe()
```

Successful Stitch Time Statistics

```
Out[7]: count    18.000000
mean      0.404174
std       0.024893
min       0.336027
25%      0.390503
50%      0.403767
75%      0.418016
max       0.443762
dtype: float64
```

```
In [8]: mean = np.mean(stitch_times)

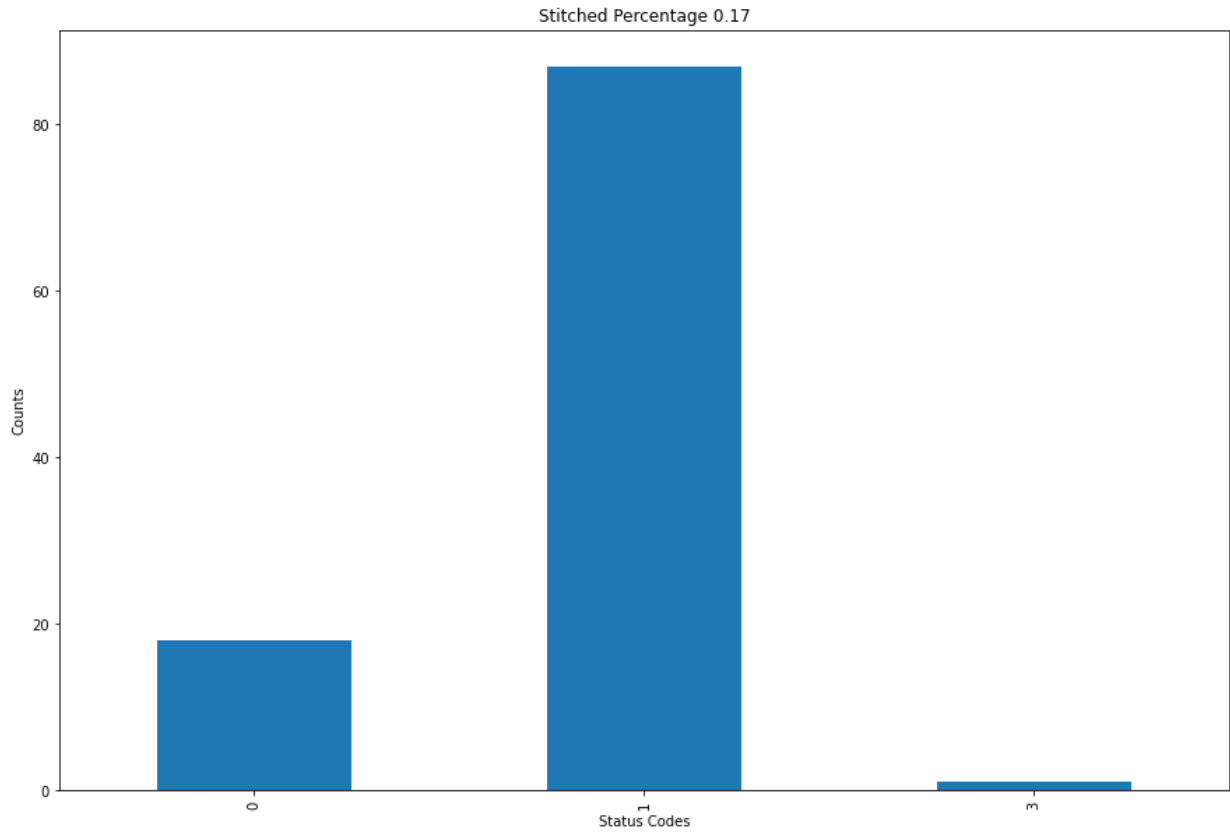
plt.hist(stitch_times)
plt.axvline(mean, color='k', linestyle='dashed', linewidth=1, label=('mean='+str(mean)))
plt.title('Successful Stitch Times')
plt.ylabel('Density')
plt.xlabel('Time (seconds)')
plt.legend();
```



## Stitch Percentage

```
In [9]: stitch_rate = round(successful_stitches.shape[0] / df.shape[0], 2)
stitch_rate

vc = df['Status'].value_counts().sort_index()
vc.plot(kind='bar')
plt.xlabel('Status Codes')
plt.ylabel('Counts')
plt.title(f'Stitched Percentage {stitch_rate}');
```



In [ ]: