



# Creating a testing workbench for Computer Vision projects using Python

---

**Darshita Chaturvedi**

Co-Founder & CEO, Atri Labs

**ML Con Berlin**

November 30, 2022



## About Me



### **Maintainer of Atri framework, and Co-Founder & CEO of Atri Labs**

Full-stack web development framework to build Progressive Web Apps



### **Previously, Graduate Research Assistant at MIT and Quant Researcher at BlackRock**

Experiences in academia and quantitative finance industry



### **Editor of novels written by my grandfather over the last 50 years**

Favorite past times: painting and learning art history

**OpenCV is great but...**

# Motivation (1/2)

## Cross-platform testing

Media type, Input devices, Operating System, Package Distribution System, etc.

"I am using mouse cursor to interact with an OpenCV window. When using a USB mouse, these events are fired as expected. When using the built-in trackpad, these events are intermittently fired at a much lower frequency."

<https://github.com/opencv/opencv/issues/21143>

"The named window that I create and am using to display images eventually stops updating. No errors are thrown but the window becomes unresponsive. I have tried increasing the time inside waitKey, but it has no noticeable effect."

<https://github.com/opencv/opencv/issues/18100>

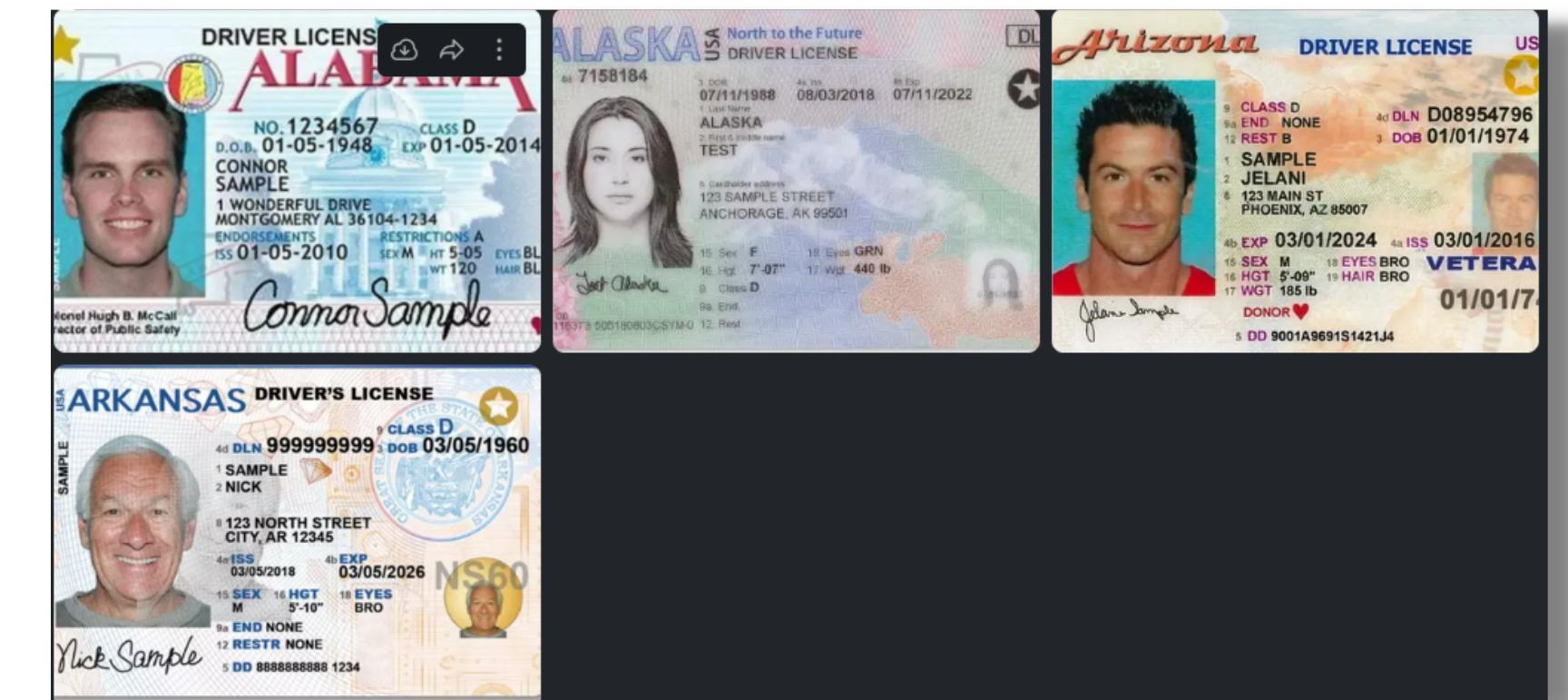
"Pressing the ' key in cv::waitKey causes crash across languages and CV versions. I am sure there are a bunch of other examples in other languages, or with other keyboards that I don't know of."

<https://github.com/opencv/opencv/issues/21401>

# Motivation (2/2)

## Collecting feedback from stakeholders

"Snapshot jungle" and lack of version control



# Demo - App user

“

Browsers have won the  
OS wars

Peter Wang

CEO & Co-Founder of Anaconda

# Atri Framework



## Full-stack web development framework

Create frontend visually and write backend in Python;  
request-response model is provided by default.



## Free and open-source

Clone existing apps or create one from scratch



## General purpose

Ecommerce websites to Machine Learning internal apps

The screenshot shows the Atri Framework's development environment. On the left, the "Insert Component" panel is open, displaying categories like Layout (Flex), Basics (Accordion, Button, Carousel, Checkbox, Countdown, Dropdown, Image, Input, Link, Radio), and others. In the center, a preview window shows a dark blue background with geometric shapes and the title "OCR Workbench". On the right, a code editor displays Python code for handling events:

```
def handle_event(at: Atri, req: Request, res: Response):
    testname = at.testname.custom.text

    if at.comment_btn.onClick:
        at.comment_input_wrapper.styles.display = "flex"
        at.comment_btn_wrapper.styles.display = "none"
```

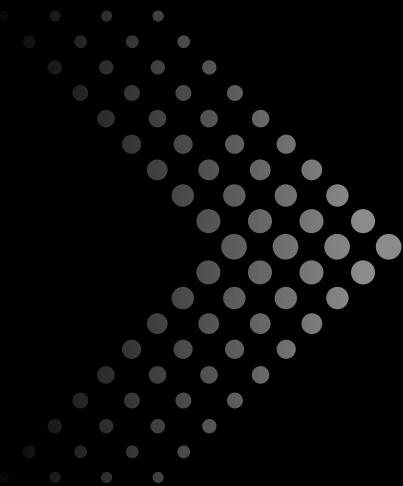
# Atri Framework vs. Django

- Frontend development in the same league as JavaScript world
- No REST API for web development
- Collaboration between Python and JavaScript developers

# Demo - App creator

# Key Takeaways

- Move from imshow windows to a testing workbench
- Build tech stack in Python
- I can develop advanced web applications from Python!



# What Next?

- 1 Install and get started

```
pipenv install atri
```

- 2 Showcase your Atri App

Share any bugs or ask questions in Discussions

- 3 Contribute Python utility functions

E.g. removing background from an image using Python

Support us by giving  
Atri framework  
a star in GitHub!



Atri-Labs/atrilabs-engine

# Resources

-  **Atri framework** <https://github.com/Atri-Labs/atrilabs-engine>
-  **Testing workbench** [https://github.com/Atri-Apps/cv\\_workbench](https://github.com/Atri-Apps/cv_workbench)
-  **All Atri Apps** <https://github.com/Atri-Apps>
-  **Atri utilities** [https://github.com/Atri-Labs/atri\\_utils](https://github.com/Atri-Labs/atri_utils)
-  **Documentation** <https://docs.atrilabs.com>

Thank you  
for listening!

 Darshita Chaturvedi

 @darshitac\_

