

Image Manipulation using Arrays

Spoken Tutorial Project

<http://spoken-tutorial.org>

National Mission on Education through ICT

<http://sakshat.ac.in>

Script: Arun KP

Narrator: Priya K

IIT Bombay

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Learning Objectives



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- ▶ Read images into arrays



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- ▶ Read images into arrays
- ▶ Perform processing on them using simple array manipulations



System Specifications



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► **Ubuntu Linux 16.04**



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- ▶ **Python 3.4.3**



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- ▶ **IPython 5.1.0**



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- ▶ **access parts of arrays**



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If not, see the relevant Python tutorials on <http://spoken-tutorial.org>



Download Files



Download Files

- ▶ Please download the files **Squares.png** and **Python.png** from the **Code files link** of this tutorial



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- ▶ Please download the files **Squares.png** and **Python.png** from the **Code files** link of this tutorial
- ▶ Save the files in the current working directory



Exercise



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- ▶ Obtain the square in the center of the image `Squares.png` with size `150X150`



Summary

- ▶ **Read images into arrays and manipulate them**



Evaluation

1. The shape of the variable `img` is (600, 600, 4).
What will be the shape of `img1` if `img1 = img[:, ::2, ::4]`

- ▶ (300, 300, 4)
- ▶ (150, 300, 4)
- ▶ (300, 150, 4)
- ▶ (150, 150, 4)



Solution

(300, 150, 4)



Forum to answer questions

- ▶ Do you have questions in **THIS Spoken Tutorial?**
- ▶ Choose the minute and second where you have the question.
- ▶ Explain your question briefly.
- ▶ Someone from the **FOSSEE** team will answer them. Please visit

<http://forums.spoken-tutorial.org/>



Forum to answer questions

- ▶ Questions not related to the Spoken Tutorial?
- ▶ Do you have general / technical questions on the Software?
- ▶ Please visit the FOSSEE Forum
<http://forums.fossee.in/>
- ▶ Choose the Software and post your question.



Textbook Companion Project

- ▶ The FOSSEE team coordinates coding of solved examples of popular books
- ▶ We give honorarium and certificate to those who do this

For more details, please visit this site:

<http://tbc-python.fossee.in/>



Acknowledgements

- ▶ **Spoken Tutorial Project is a part of the Talk to a Teacher project**
- ▶ **It is supported by the National Mission on Education through ICT, MHRD, Government of India**
- ▶ **More information on this mission is available at:**

<http://spoken-tutorial.org/NMEICT-Intro>



THANK YOU!

For more information, visit our website
<http://fossee.in/>

