

Dr. Marco Zamarin

- Image Analysis and Video Processing
- How AutoCropping in C1 Works

Doug Peterson

- Advantages Review
- Workflows for Successful AutoCrop
- DTDCH Crop Manipulator
- Potential for Object Photography

Open Q&A

Image Analysis and Video Processing

- Dr. Zamarin's Educational Background
- The challenge of teaching a computer to see like a person

Generic Algorithm

- Looking for shapes, not just perfect rectangles
- Largest detected shape always wins
- Bounding Box for Shape
- Edges Are Most Important

Book Scanning Algorithm

- Looking for straight lines
- Guided by straight lines, looks for page edges
- Locks onto ONE page in the case of a BC100 style capture

Limitations

- Some contrast required for Shape Detection
- Minimum size within frame required*
- Minimum margin around object
- Strip Film

*Pre-crop ROI method (discussed later) works well for very small objects

Duke University

University of Kentucky

Smithsonian American Art

University of North Texas

Pixel Acuity

Getty Research Institute

Gates Archive

UNC Charlotte

NYPL

...And More

“Like a lot of technological advances, reliable auto cropping seemed like a fantasy just a few years ago, but is now a reality. It doesn’t work perfectly every time, and quality control is still necessary to uncover errors, but it’s a big step forward.” - Duke University

“The Digital Lab has already utilized the batch auto cropping and straightening features to process thousands of newspaper pages digitized between 2010 and 2012. Previously, this work was outsourced to a company that completed the work by hand.” – University of Kentucky



Operator Time

Do other work* while
Capture One CH
AutoCrops 1-2 images per
second

*Or grab a coffee!



Flexibility

On Crop
On Capture
Precrop ROI
Multi Crop
Contrast Pre-Pass



In Flow QC

Correct crops without
leaving workflow.

Capture Environment

- Background Tone (white? black?)
- Extraneous Objects in Frame
- Object Stability

Pre Crop ROI

- Excludes Complex Surroundings
- Object Stability Helps
- Apply in Bulk

Contrast Pre Pass

- Neutralize background
- Contract levels for white background
- Contract levels for dark solid object
- LCC very important
- Reset after (or use style to reset)

Multi Crop

- Loose Crop On Each ROI
- Use Color Tags to ease filtering
- Run AutoCrop at END of Workflow

On Crop

- Provides AutoCrop assist after a manual crop
- Great for manual designating the ROI

On Capture

- Best for “easy cases”
- Allows immediate inspection of object