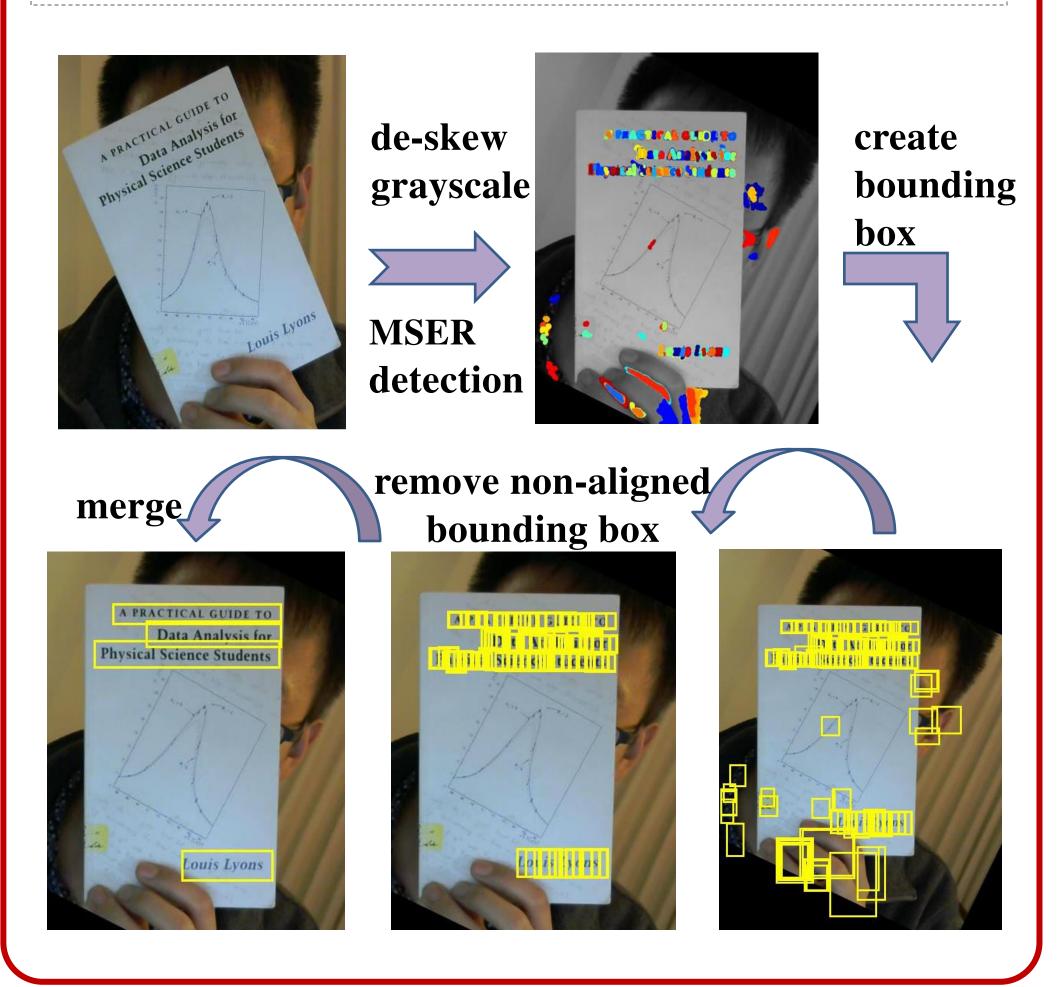


## Motivation

When visiting bookstores, people always want to find more details about the book they are interested. Generally, we want to know more comments on that book, we may also want to compare the prices for the same book from online stores. Therefore, the goal of our project is to provide readers with more book information by just taking photos of the book cover. In this way, people can make better decisions on taking books in the bookstore.

## Preprocessing

Some limitations of digital camera like geometrical distortions will influence the performances of OCR, hence we need image preprocessing

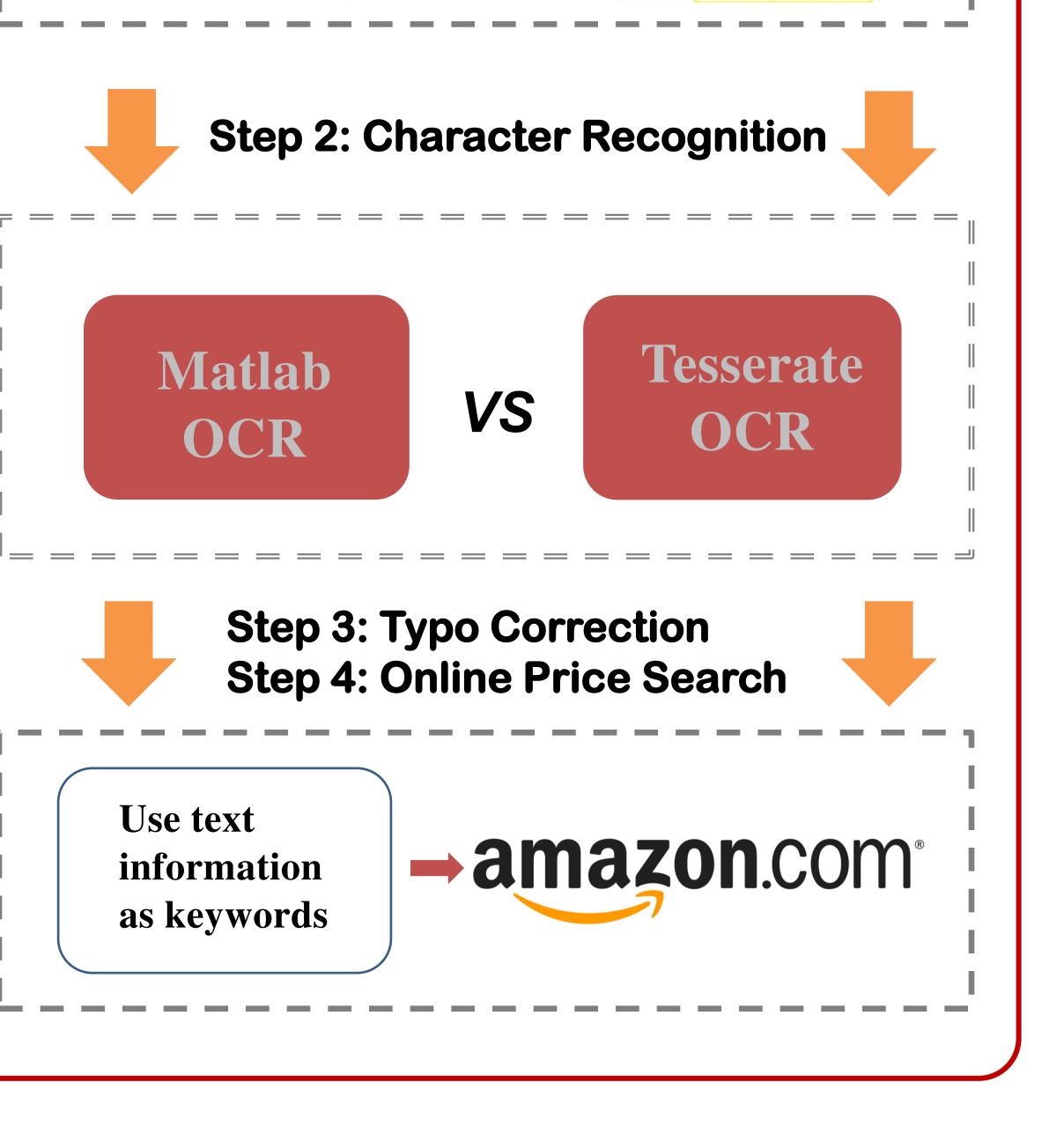


# Book Cover Recognition Linfeng Yang, Xinyu Shen

# <section-header><section-header><section-header><section-header><section-header><table-row><table-row><table-row>

EV. DR. KAPYA KAOM

REV. DR. KAPYA KAOMA



## Results

💟 🥘 📭 11/1 (Inters.)	BETTE × +	noss_2?url=search-alias%3Daps&field-keyv	vords=Alul+Gawande++BETTE			
mazon Try Prime	All - Alul Gawande BETT	TE			Q 12 DAYS	OF DEALS Sponsored by Philips Sonicare
partments -	Your Amazon.com Today's D	Deals Gift Cards & Registry Sell He	alp		Hello. Sign in Account & Lists → Orde	ers Try Prime - V. Cart
	Your search <b>"Alul Ga</b> Did you mean: "atul ga	wande BETTE" did not match ar awande better"	ny products.			
			ATUL GAWANDE		Best Seller	
	Atul Gawande		better	MIm_Text_v1	Address and Addre	- 0
	BETTER		Larged: New on Probant		-Michae Control, some of Mary	Load Image
		tes on Performance Jan 22, 2008	BETTER 2007			Preview Snapshot!
	by Atul Gawande \$10 <sup>00</sup> \$16.00 Paperbac	ck <b>√Prime</b>	by ATUL GAWANDE \$7.78 new (9 offers) \$1.64 used (24 offers)		Atul Gawande	TextBox Enlarge 0.03
	Get it by Wednesday, Dec 7 More Buying Choices \$5.62 new (83 offers)		**************************************		BETTER TER	Min Area 50
	\$0.99 used (217 offers) FREE Shipping on eligible or	rders		MATIC		Max Area 4000 Min Length 2
						Stroke Width 0.4
		'atul gawande better" in All Depar	tments			Matlab OCR
	Sponsored Links (What 1. Selling 9780312		Sell ISB	N 978		
			www.se		Alul Gawande BETTE	^ Analyze!
	2. Atul Gawande B	<u>3ooks</u> ख now up to 70% - Deals on Be	tter Atul Discove	94034 (1914) (19	DETTE	
	<u>Gawande</u>	now up to 70% - Deals on Be	www.cy			Find it Online!
浏览器 - Amazon.com: /	AMERICAN CUI TURE WARRIORS II	N AFRICA - '~'.				- n
zon.com: AMERICAN CU	AMERICAN CULTURE WARRIORS II ULTURE WARRIORS IN AFRICA - '~ ww.amazon.com/s/ref=nb sb noss	·. × +	s=AMERICAN + + CULTURE + WARRIORS +	+IN+AFRICA+-+%27%7E%27.+8		
zon.com: AMERICAN CU う 🍓 🙌 位置: ıs://ww	ULTURE WARRIORS IN AFRICA - '~ ww.amazon.com/s/ref=nb_sb_noss_	·. × +	s=AMERICAN++CULTURE+WARRIORS+	+IN+AFRICA+-+%27%7E%27.+8	2%21++.++IGUIDE+TO+THE+EXPOITEISIOMOP	HOBII+IIIS_++REV.+DR.+KAPYA+KAOM
zon.com: AMERICAN CU	ULTURE WARRIORS IN AFRICA - '~ ww.amazon.com/s/ref=nb_sb_noss_ All - AMERICAN CULTU	-'. <b>× ( + )</b> 2?url=search-alias%3Daps&field-keyword JRE WARRIORS IN AFRICA - '~'.		+IN+AFRICA+-+%27%7E%27.+8	Q 12 DAYS Hello. Sign in	HOBII+IIIS_++REV.+DR.+KAPYA+KAOM
zon.com: AMERICAN CL	ULTURE WARRIORS IN AFRICA - '~ ww.amazon.com/s/ref=nb_sb_noss_ All - AMERICAN CULTU	·'. ★ + _2?url=search-alias%3Daps&field-keyword IRE WARRIORS IN AFRICA - '~'. Deals Gift Cards & Registry Sell He		+IN+AFRICA+-+%27%7E%27.+8	Q 12 DAYS	HOBII+IIIS_++REV.+DR.+KAPYA+KAOM OF DEALS Sponsored by Philips Sonicar
zon.com: AMERICAN CU	ULTURE WARRIORS IN AFRICA - '~ ww.amazon.com/s/ref=nb_sb_noss_ All ~ AMERICAN CULTU Your Amazon.com Today's D	·'. ★ + 2?url=search-alias%3Daps&field-keyword JRE WARRIORS IN AFRICA - '~'. Deals Gift Cards & Registry Sell He AFRICA - '~'."	эlр		C 12 DAYS Hello. Sign in Account & Lists ~ Orde	HOBII+IIIS_++REV.+DR.+KAPYA+KAOM OF DEALS Sponsored by Philips Sonicar ers Try Prime - Cart
zon.com: AMERICAN CU	ULTURE WARRIORS IN AFRICA - '~ ww.amazon.com/s/ref=nb_sb_noss_ All ~ AMERICAN CULTU Your Amazon.com Today's D	·'. ★ + 2?url=search-alias%3Daps&field-keyword JRE WARRIORS IN AFRICA - '~'. Deals Gift Cards & Registry Sell He AFRICA - '~'."		rs of Homophobia and Se	C 12 DAYS Hello. Sign in Account & Lists ~ Orde	HOBII+IIIS_++REV.+DR.+KAPYA+KAOM OF DEALS Sponsored by Philips Sonicar ers Try Prime - OC Cart Sort by Relevance
zon.com: AMERICAN CU 高麗 M 位置: is://ww 13201 Try Prime artments マ f 26 results for "AMERI v results for hones & Accessories > & Kitchen >	ULTURE WARRIORS IN AFRICA - '~ ww.amazon.com/s/ref=nb_sb_noss_ All ~ AMERICAN CULTU Your Amazon.com Today's E ICAN CULTURE WARRIORS IN A		эlр		C 12 DAYS Hello. Sign in Account & Lists ~ Orde	HOBII+IIIS_++REV.+DR.+KAPYA+KAOM OF DEALS Sponsored by Philips Sonicar ers Try Prime - Octant Sort by Relevance
ton.com: AMERICAN CL A 位置: is://ww AZON Try Prime artments ~ f 26 results for "AMERI y results for tones & Accessories > & Kitchen > >	ULTURE WARRIORS IN AFRICA - '~ ww.amazon.com/s/ref=nb_sb_noss_ All ~ AMERICAN CULTU Your Amazon.com Today's E ICAN CULTURE WARRIORS IN A		эlр	rs of Homophobia and Se	C 12 DAYS Hello. Sign in Account & Lists ~ Orde	HOBII+IIIS_++REV.+DR.+KAPYA+KAOM OF DEALS Sponsored by Philips Sonicar ers Try Prime - Octant Sort by Relevance
ton.com: AMERICAN CL A 位置: is://ww A 位置: is://ww A C Try Prime A f 26 results for "AMERI Y results for tonnes & Accessories > & Kitchen > > > the by m Prime	ULTURE WARRIORS IN AFRICA - '~ ww.amazon.com/s/ref=nb_sb_noss_ All ~ AMERICAN CULTU Your Amazon.com Today's E ICAN CULTURE WARRIORS IN A		<sup>lip</sup> Africa: A Guide to the Exporte	rs of Homophobia and Se	C 12 DAYS Hello. Sign in Account & Lists ~ Orde	HOBII+IIIS_++REV.+DR.+KAPYA+KAOM OF DEALS Sponsored by Philips Sonicar ers Try Prime - Cart Sort by Relevance -
ton.com: AMERICAN CL A 位置: s://ww Comparison of the size of the	ULTURE WARRIORS IN AFRICA - '~ ww.amazon.com/s/ref=nb_sb_noss_ All ~ AMERICAN CULTU Your Amazon.com Today's E ICAN CULTURE WARRIORS IN A		эlр	rs of Homophobia and Se	C 12 DAYS Hello. Sign in Account & Lists ~ Orde	HOBII+IIIS_++REV.+DR.+KAPYA+KAOM OF DEALS Sponsored by Philips Sonicar ers Try Prime - Cart Sort by Relevance
zon.com: AMERICAN CU 論 《 位置: is://ww 13.ZON Try Prime f 26 results for "AMERI v results for v results for nones & Accessories > & Kitchen > > w results for nones & Accessories > a Kitchen > > a consection of the second b consection of the second a consection of the	ULTURE WARRIORS IN AFRICA - '~ ww.amazon.com/s/ref=nb_sb_noss_ All ~ AMERICAN CULTU Your Amazon.com Today's E ICAN CULTURE WARRIORS IN A		Africa: A Guide to the Exporte	rs of Homophobia and Se	C 12 DAYS Hello. Sign in Account & Lists ~ Orde	HOBII+IIIS_++REV.+DR.+KAPYA+KAOM OF DEALS Sponsored by Philips Sonicar ers Try Prime - C. Cart Sort by Relevance
zon.com: AMERICAN CU 这個人的 CTTLY Prime artments ~ f 26 results for "AMERI v results for nones & Accessories > & Kitchen > > he by on Prime time e for Free Shipping e shipping by Amazon tustomer Review 全人文 & Up	ULTURE WARRIORS IN AFRICA - '~ ww.amazon.com/s/ref=nb_sb_noss_ All ~ AMERICAN CULTU Your Amazon.com Today's E ICAN CULTURE WARRIORS IN A	x + 2?url=search-alias%3Daps&tfield-keyword IRE WARRIORS IN AFRICA - '~'. Deals Gift Cards & Registry Sell He AFRICA - '~'.  American Culture Warriors in by Rev. Dr. Kapya Kaoma Perfect Paperback \$17.95 used & new (1 offer)  Once Intrepid Warriors: Geno by Dorothy L, Hodgson Paperback \$2500 // prime Temporarily out of stock. Order now and More Buying Choices	Africa: A Guide to the Exporte	rs of Homophobia and Se	C 12 DAYS Hello. Sign in Account & Lists ~ Orde	HOBII+IIIS_++REV.+DR.+KAPYA+KAOM OF DEALS Sponsored by Philips Sonicar ers Try Prime  CCart Sort by Relevance Load Image Preview Snapshot! TextBox Enlarge 0.055
zon.com: AMERICAN CU 这個人的 CE: [s://ww 13.2011 Try Prime artments ~ f 26 results for "AMERI v results for v results for nones & Accessories > & Kitchen > > % Kitchen > > artme e for Free Shipping e shipping by Amazon sustomer Review 个 & Up 个介介 & Up 介介介 & Up	ULTURE WARRIORS IN AFRICA - '~ ww.amazon.com/s/ref=nb_sb_noss_ All ~ AMERICAN CULTU Your Amazon.com Today's E ICAN CULTURE WARRIORS IN A		Africa: A Guide to the Exporte	rs of Homophobia and Se	C 12 DAYS Hello. Sign in Account & Lists ~ Orde	HOBII+IIIS_++REV.+DR.+KAPYA+KAOM OF DEALS Separation of the provided and
zon.com: AMERICAN CU artments f 26 results for "AMERI r v results for "AMERI v results for hones & Accessories > & Kitchen > > he by on Prime e for Free Shipping e Shipping by Amazon ustomer Review A Up A Up A Up	ULTURE WARRIORS IN AFRICA - '~ ww.amazon.com/s/ref=nb_sb_noss_ All ~ AMERICAN CULTU Your Amazon.com Today's E ICAN CULTURE WARRIORS IN A		Africa: A Guide to the Exporte	rs of Homophobia and Se	Letter Text     Control Text     Contex     Control Text     Control Text     Control Text     Control	HOBII+IIIS_++REV.+DR.+KAPYA+KAOM OF DEALS Sponsored by Philips Sonicard ors Try Prime - Cart Sort by Relevance - Load Image Preview Snapshot! TextBox Enlarge 0.055 Min Area 150 Max Area 4000
zon.com: AMERICAN CL A 位置: s://ww A 位置: s://ww A C = s: s: s://ww A C = s:	ULTURE WARRIORS IN AFRICA - '~ ww.amazon.com/s/ref=nb_sb_noss_ All ~ AMERICAN CULTU Your Amazon.com Today's E ICAN CULTURE WARRIORS IN A	<sup>1</sup> . × +          2?url=search-alias%3Daps&tfield-keyword         JRE WARRIORS IN AFRICA - '~'.         Deals Gift Cards & Registry Sell He         Arrerican Culture Warriors in by Rev. Dr. Kapya Kaoma         Perfect Paperback         \$17.95 used & new (1 offer)         Once Intrepid Warriors: Geno by Dorothy L. Hodgson         Paperback         \$2500 <i>prime</i> Temporarily out of stock. Order now and More Buying Choices         \$1.32 used & new (78 offers)         Hardcover         \$9.76 used & new (30 offers)	Africa: A Guide to the Exporte	rs of Homophobia and Se	C 12 DAYS Hello. Sign in Account & Lists ~ Orde	HOBII+IIIS_++REV.+DR.+KAPYA+KAOM OF DEALS Sonsored by Philips Sonicare ars Try Prime - Load Image Preview Snapshot! TextBox Enlarge 0.055 Min Area 150 Max Area 4000 Min Length 8 Stroke Width 0.7
zon.com: AMERICAN CC	ULTURE WARRIORS IN AFRICA - '~ ww.amazon.com/s/ref=nb_sb_noss_ AII ~ AMERICAN CULTU Your Amazon.com Today's D ICAN CULTURE WARRIORS IN A ICAN CULTURE WARRIO	<sup>•</sup> . <b>x</b> + <sup>1</sup> <sup>2</sup> ?url=search-alias%3Daps&tfield-keyword* <sup>2</sup> ?url=search-alias%3Daps&tfield-keyword* <sup>1</sup> . <b>X</b> = <b>X</b>	Africa: A Guide to the Exporte	rs of Homophobia and Se	Leilo. Sign in Account & Lists      Orde	HOBII+IIIS_++REV.+DR.+KAPYA+KAOM OF DEALS Sponsored by Philips Sonicard ors Try Prime - Cart Sort by Relevance - Load Image Preview Snapshot! TextBox Enlarge 0.055 Min Area 150 Max Area 4000 Min Length 8 Stroke Width 0.7 Matlab OCR Tesseract OCR
zon.com: AMERICAN CC	ULTURE WARRIORS IN AFRICA - '~ ww.amazon.com/s/ref=nb_sb_noss_ AII ~ AMERICAN CULTU Your Amazon.com Today's D ICAN CULTURE WARRIORS IN A COMPACTION OF TODAY'S D ICAN CULTURE WARRIORS IN A COMPACTION OF TODAY'S D ICAN CULTURE WARRIORS IN A COMPACTION OF TODAY'S D ICAN CULTURE WARRIORS IN A ICAN CULTURE WARRIORS IN A I	<sup>•</sup> . <b>x</b> + <sup>1</sup> <sup>2</sup> ?url=search-alias%3Daps&tfield-keyword* <sup>2</sup> ?url=search-alias%3Daps&tfield-keyword* <sup>1</sup> . <b>X</b> = <b>X</b>	Africa: A Guide to the Exporte	Politi	Letter Text     Control Text     Contex     Control Text     Control Text     Control Text     Control	HOBII+IIIS_++REV.+DR.+KAPYA+KAOM
zon.com: AMERICAN CL A 位置: s://www artments ~ f 26 results for "AMERI v results for nones & Accessories > & Kitchen > > he by on Prime cfme e for Free Shipping a Shipping by Amazon sustomer Review A 位置: s://www results for hones & Accessories > & Kitchen > > > A total a for total a for a for Free Shipping a Shipping by Amazon sustomer Review A for & Up A for &	ULUTURE WARRIORS IN AFRICA~ ww.amazon.com/s/ref=nb_sb_noss_ AII - AMERICAN CULTU Your Amazon.com Today's D ICAN CULTURE WARRIORS IN A COMPACT ICAN CULTURE WARRIORS IN A ICAN CULTU		Africa: A Guide to the Exporte	Politi	LE DAYS      Hello. Sign in     Account & Lists      Orde      XISM 2014	HOBII+IIIS_++REV.+DR.+KAPYA+KAOM OF DEALS Sponsored by Philips Sonicare ors Try Prime - Cart Sort by Relevance
zon.com: AMERICAN CL	ULTURE WARRIORS IN AFRICA - '~ ww.amazon.com/s/ref=nb_sb_noss_ AII ~ AMERICAN CULTU Your Amazon.com Today's D ICAN CULTURE WARRIORS IN A ICAN CULTURE WARRIO		Africa: A Guide to the Exporte	Politi	LE DAYS      Hello. Sign in     Account & Lists      Orde      XISM 2014	HOBII+IIIS_++REV.+DR.+KAPYA+KAOM

### Reference

[1].Lowe, David G. "Object recognition from local scale-invariant features." Computer vi- sion, 1999. The proceedings of the seventh IEEE international conference on. Vol. 2. leee, 1999. [2].Bay, Herbert, et al. "Speeded-up robust features (SURF)." Computer vision and im- age understanding 110.3 (2008): 346-359. [3].Iwata, Kenji, et al. "Book cover identification by using four directional features field for a small-scale library system." Document Analysis and Recognition, 2001. Proceedings. Sixth International Conference on. IEEE, 2001.