



سومین کنفرانس ماشین بینایی
و پردازش تصویر ایران
۱۳۸۳ و ۵ آسفند ماه

The Third Conference on
Machine Vision, Image Processing
& Applications (MVIP 2005)
Tehran, Iran, Feb. 23-24, 2005



هفتادمین سال تاسیس دانشگاه تهران - ۱۳۸۳

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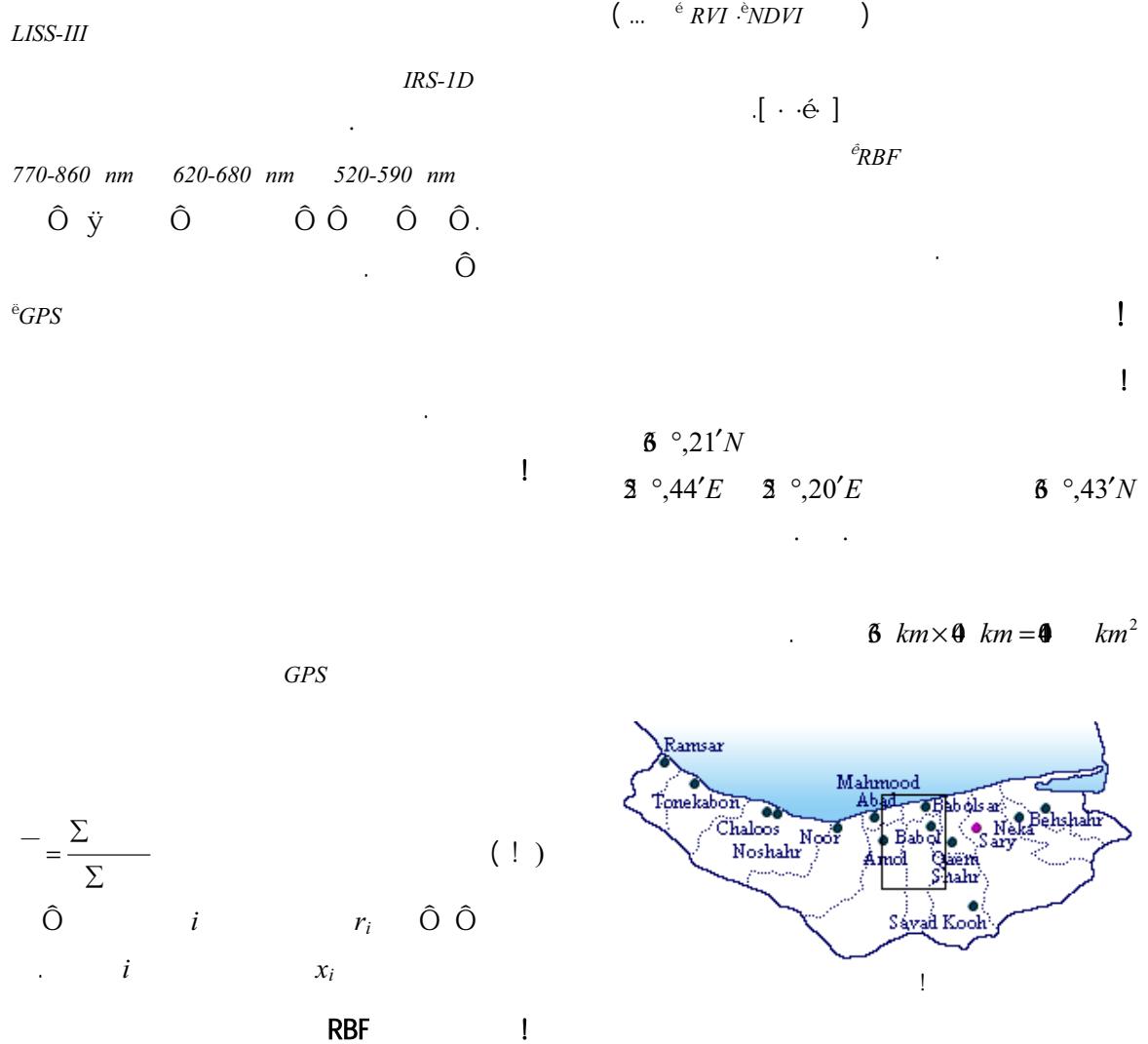
RBF

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(RBF)

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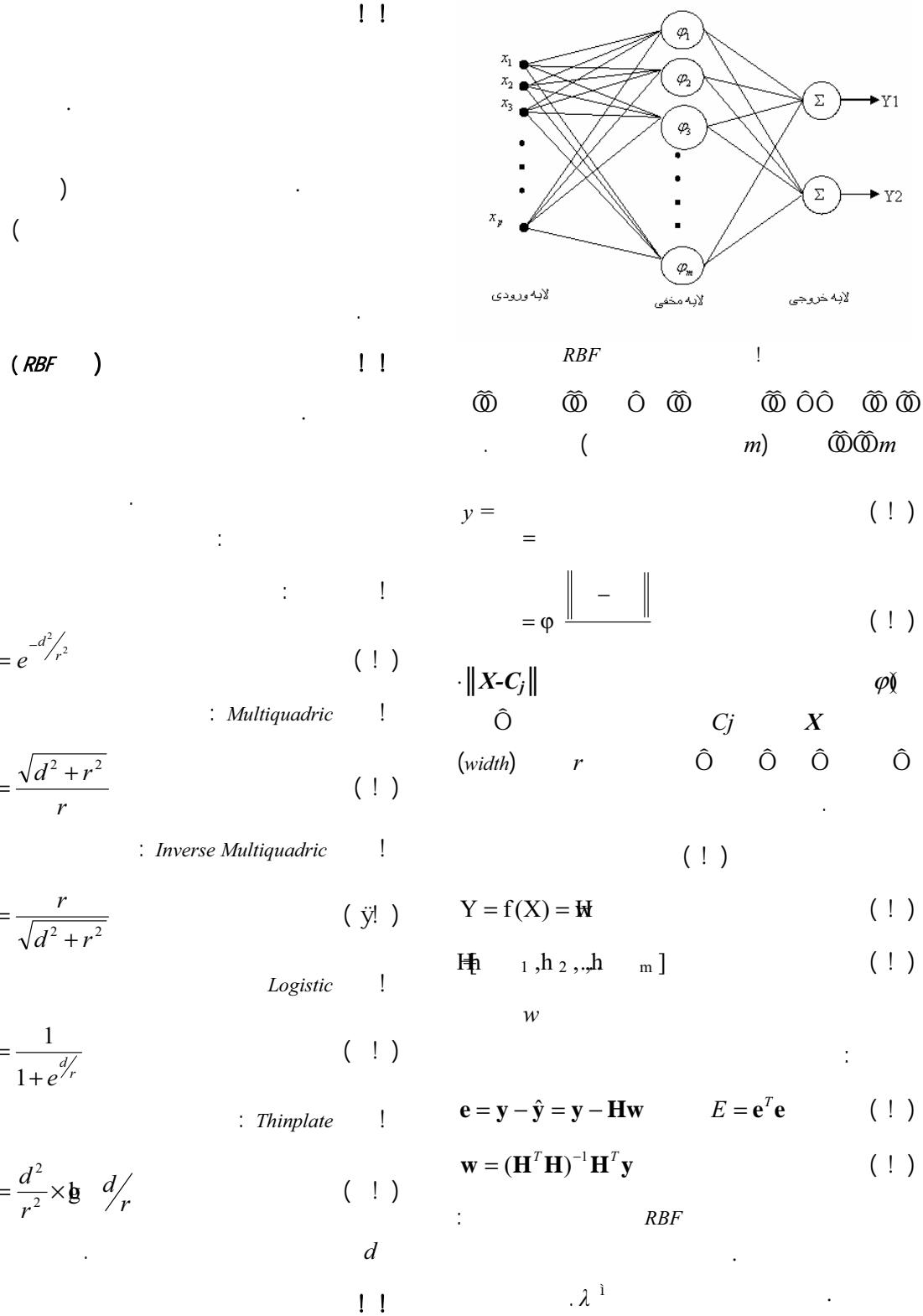


⁴ Global Positioning System

¹ Normalized Difference Vegetation Index

² Ratio Vegetation Index

³ Radial Basis Function



[·] forward selection(FS)

FS

⁵ regularization

n	GCV	λ	r	$)$
GCV	.	.	.	$($
.	.	.	.	$)$
.	.	.	.	$)$
.	.	.	.	$)$
.	.	.	.	$generalized\ cross$
.	.	.	.	$[\cdot \cdot] validation(GCV)$
.	.	.	.	λ
.	.	.	.	$! !$
$(\ddot{y} - \ddot{y}'\ddot{y}$.	.	.	$)$
.	.	.	.	RBF
.	.	.	.	$!$
.	.	.	.	$)$
.	.	.	.	$overfit$
.	.	.	.	λ
.	.	.	.	$overfit$
.	.	.	.	$!$
.	.	.	.	$Cross - Validation$
.	.	.	.	$!$
\otimes	\circ	\hat{o}	\otimes	\otimes
K	.	.	K	$Cross\ Validation$
$Validation$.	.	.	$E = \mathbf{e}^T \mathbf{e} + \lambda \mathbf{w}^T \mathbf{w} = \mathbf{y}^T \mathbf{P} \mathbf{y}$
$K-1$.	.	.	$\mathbf{P} = \mathbf{I}_p - \mathbf{H}(\mathbf{H}^T \mathbf{H} + \lambda \mathbf{I}_m)^{-1} \mathbf{H}^T$
$Cross\ Validation$.	.	.	$\mathbf{w} = (\mathbf{H}^T \mathbf{H} + \lambda \mathbf{I}_m)^{-1} \mathbf{H}^T \mathbf{y}$
.	.	.	.	m
.	.	.	.	w
.	.	.	.	P
.	.	.	.	$[\cdot \cdot]$
.	.	.	.	GCV
.	.	.	.	λ
.	.	.	.	GCV
.	.	.	.	λ
.	.	.	.	$[\cdot \cdot]$
.	.	.	.	$!$
RBF	.	.	.	$!$
$Inverse$	$multiquadric$	$Gaussian$	RBF	(r)
$Thinplate$	$Logistic$	$multiquadric$.	GCV
.	.	.	.	r
.	.	.	.	r
.	.	.	.	$!$
.	.	.	.	GCV

	(%)		<i>Rs</i>
<i>Train</i>	/	/	ÿ/
<i>Validation</i>	/	/	ÿ/ ÿ
<i>Test</i>	/	/ ÿ	ÿ/

RBF

IRS-ID

RBF

forward selection

$$\frac{rs}{E + S}$$

E

rs

Validation

S

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	(%)		<i>Rs</i>
<i>Train</i>	/	/ÿ	ÿ/
<i>Validation</i>	/	/	ÿ/
<i>Test</i>	/ ÿ	/	ÿ/ ÿ

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