## Supplemental Material for Creating Texture Exemplars from Unconstrained Images (Yale University Department of Computer Science Technical Report 1483)

Yitzchak David Lockerman, Su Xue, Julie Dorsey, and Holly Rushmeier

This document contains additional examples that did not fit into the main report due to size constraints. It is divided into two sections.

The first section is the result of our experiments comparing different feature spaces. Each page has an original image and a tile selected by our "naive" user. Additionally it includes a tile set for each feature space along with the number of graphics students that approved each tile set.

Note that we ran the test twice for each feature space. The tile output of the program should be nearly identical for each run, with the exception of slight variations caused by non-determinism. The differences in the user responses can be attributed to variability of what a single reviewer considered "the same texture" as the test progressed.

The second section includes a number of additional examples. For each example we included the original image, a screenshot of our GUI, the tiles obtained from our system and the resulting texture synthesis.

## 1 Experiment Results



Image by Flicker user Maggiejumps, under the Creative Common Attribution 2.0 Generic License <a href="http://flic.kr/p/B7LUq">http://flic.kr/p/B7LUq</a>

run	2-moments	5-moments	HOG Texture Space	Trivial Feature Space	Autocorrelation Feature Space
				13 2 3 As	10 M 10 10
				and the second	<b>多</b>
					The same of the same
1					5× 52 55 😭
	7 of 8 participants approved of all the tiles	7 of 8 participants approved of all the tiles	no participants approved of all tiles	5 of 8 participants approved of all the tiles	7 of 8 participants approved of all the tiles
					رف الدين المارة المارة
				att of St.	<b>多多多</b> 多
					The will have the
2					5× 5× 55 😅
	6 of 8 participants approved of all the tiles	6 of 8 participants approved of all the tiles	no participants approved of all tiles	6 of 8 participants approved of all the tiles	6 of 8 participants approved of all the tiles



Mayon Even Eventu833@documd.it
Image by Flicker user Moyan\_Brenn, under the Creative Common Attribution 2.0 Generic License http://flic.kr/p/9zbaaF

run	2-moments	5-moments	HOG Texture Space	Trivial Feature Space	Autocorrelation Feature Space
				被推出	
1					
	8 of 8 participants approved of all the tiles	7 of 8 participants approved of all the tiles	2 of 8 participants approved of all the tiles	1 of 8 participants approved of all the tiles	no participants approved of all tiles
				<b>维维</b> 三三	
					類的重要
2					
	8 of 8 participants approved of all the tiles	8 of 8 participants approved of all the tiles	3 of 8 participants approved of all the tiles	1 of 8 participants approved of all the tiles	no participants approved of all tiles



Image by Flicker user jcookfisher, under the Creative Common Attribution 2.0 Generic License http://flic.kr/p/94xrS8

run	2-moments	5-moments	HOG Texture Space	Trivial Feature Space	Autocorrelation Feature Space
					5
1			20 32 35 W		
	7 of 8 participants approved of all the tiles	6 of 8 participants approved of all the tiles	7 of 8 participants approved of all the tiles	4 of 8 participants approved of all the tiles	no participants approved of all tiles
			W 18 18		<b>5</b> — — <i>E</i>
2					
	7 of 8 participants approved of all the tiles	8 of 8 participants approved of all the tiles	8 of 8 participants approved of all the tiles	5 of 8 participants approved of all the tiles	1 of 8 participants approved of all the tiles



Image by Flicker user kcdsTM, under the Creative Common Attribution 2.0 Generic License http://flic.kr/p/4MKRG5

run	2-moments	5-moments	HOG Texture Space	Trivial Feature Space	Autocorrelation Feature Space
				医医多数	
			選 麗 西 落		
		S 25 15 15		整 医 使 医	
1			黨 經 章 题		
	8 of 8 participants approved of all the tiles	8 of 8 participants approved of all the tiles	7 of 8 participants approved of all the tiles	8 of 8 participants approved of all the tiles	8 of 8 participants approved of all the tiles
		第 第 數 第		医 医 医	
			選 麗 西 溪		
				德 医 後 多	
2			黨 經 章 题		
	8 of 8 participants approved of all the tiles	8 of 8 participants approved of all the tiles	7 of 8 participants approved of all the tiles	8 of 8 participants approved of all the tiles	8 of 8 participants approved of all the tiles



Image by Flicker user Nina Matthews, under the Creative Common Attribution 2.0 Generic License http://flic.kr/p/9uCMNF

run	2-moments	5-moments	HOG Texture Space	Trivial Feature Space	Autocorrelation Feature Space
	***				
1					
	4 of 8 participants approved of all the tiles	5 of 8 participants approved of all the tiles	no participants approved of all tiles	5 of 8 participants approved of all the tiles	no participants approved of all tiles
	14.84				
2					
	4 of 8 participants approved of all the tiles	6 of 8 participants approved of all the tiles	no participants approved of all tiles	2 of 8 participants approved of all the tiles	no participants approved of all tiles



Image by Flicker user ralph and jenny, under the Creative Common Attribution 2.0 Generic License http://flic.kr/p/a3ZDcn

run	2-moments	5-moments	HOG Texture Space	Trivial Feature Space	Autocorrelation Feature Space
	mand ten in miner into	the second secon			
		And the second s			
	Marian Marian	Company of the Compan			
1	Contract Contraction Contracti	Marian Commence Comme			
	5 of 8 participants approved of all the tiles	4 of 8 participants approved of all the tiles	no participants approved of all tiles	1 of 8 participants approved of all the tiles	no participants approved of all tiles
	Commission of the Commission o				
		And the second s			
	Marian Company	Control of the Contro			
2	Contract of the Contract of th	Marian Commission Comm			
	5 of 8 participants approved of all the tiles	4 of 8 participants approved of all the tiles	no participants approved of all tiles	2 of 8 participants approved of all the tiles	no participants approved of all tiles



Image by Flicker user psmithy, under the Creative Common Attribution 2.0 Generic License http://flic.kr/p/4Sj7fk

run	2-moments	5-moments	HOG Texture Space	Trivial Feature Space	Autocorrelation Feature Space
					Sec.
		· · · · · · · · · · · · · · · · · · ·			
1					
	4 of 8 participants approved of all the tiles	5 of 8 participants approved of all the tiles	no participants approved of all tiles	6 of 8 participants approved of all the tiles	no participants approved of all tiles
					See See
2					
	5 of 8 participants approved of all the tiles	5 of 8 participants approved of all the tiles	no participants approved of all tiles	6 of 8 participants approved of all the tiles	no participants approved of all tiles



Image by Flicker user motiqua, under the Creative Common Attribution 2.0 Generic License http://flic.kr/p/7TRX79

run	2-moments	5-moments	HOG Texture Space	Trivial Feature Space	Autocorrelation Feature Space
		es de la companya de			
1					
	no participants approved of all tiles	5 of 8 participants approved of all the tiles	no participants approved of all tiles	no participants approved of all tiles	no participants approved of all tiles
	ages and a second	in the second			
2					
	no participants approved of all tiles	5 of 8 participants approved of all the tiles	no participants approved of all tiles	no participants approved of all tiles	no participants approved of all tiles



Image by Flicker user gray\_um, under the Creative Common Attribution 2.0 Generic License http://flic.kr/p/5DM9Vh

run	2-moments	5-moments	HOG Texture Space	Trivial Feature Space	Autocorrelation Feature Space
					Space
1					
	2 of 8 participants approved of all the tiles	4 of 8 participants approved of all the tiles	6 of 8 participants approved of all the tiles	no participants approved of all tiles	1 of 8 participants approved of all the tiles
2					
	2 of 8 participants approved of all the tiles	5 of 8 participants approved of all the tiles	6 of 8 participants approved of all the tiles	no participants approved of all tiles	no participants approved of all tiles



Image by Flicker user Drew Avery, under the Creative Common Attribution 2.0 Generic License http://flic.kr/p/64JoJN

run	2-moments	5-moments	HOG Texture Space	Trivial Feature Space	Autocorrelation Feature
					Space
	A Control of the Control				4
		24 季 25 55		<b>经基础</b>	
1					
	7 of 8 participants approved of all the tiles	8 of 8 participants approved of all the tiles	no participants approved of all tiles	2 of 8 participants approved of all the tiles	no participants approved of all tiles
	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2				
					4
2					
	7 of 8 participants approved of all the tiles	8 of 8 participants approved of all the tiles	no participants approved of all tiles	1 of 8 participants approved of all the tiles	no participants approved of all tiles

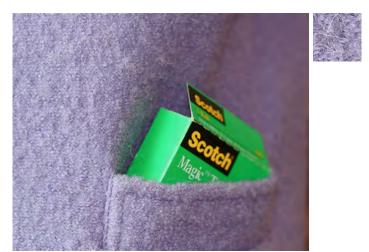


Image by Flicker user Muffet, under the Creative Common Attribution 2.0 Generic License http://flic.kr/p/5XyRoU

run	2-moments	5-moments	HOG Texture Space	Trivial Feature Space	Autocorrelation Feature Space
			位 拉 沙 菱		
1					
	7 of 8 participants approved of all the tiles	7 of 8 participants approved of all the tiles	no participants approved of all tiles	2 of 8 participants approved of all the tiles	no participants approved of all tiles
2					
	8 of 8 participants approved of all the tiles	8 of 8 participants approved of all the tiles	no participants approved of all tiles	1 of 8 participants approved of all the tiles	no participants approved of all tiles



Image by Flicker user Todd Ryburn, under the Creative Common Attribution 2.0 Generic License http://flic.kr/p/6wRbfj

run	2-moments	5-moments	HOG Texture Space	Trivial Feature Space	Autocorrelation Feature Space
					多类量多
1					
	6 of 8 participants approved of all the tiles	6 of 8 participants approved of all the tiles	no participants approved of all tiles	no participants approved of all tiles	no participants approved of all tiles
					多类量(
2					
	6 of 8 participants approved of all the tiles	5 of 8 participants approved of all the tiles	no participants approved of all tiles	no participants approved of all tiles	no participants approved of all tiles



Image by Flicker user snigl3t, under the Creative Common Attribution 2.0 Generic License http://flic.kr/p/3zcwdy

run	2-moments	5-moments	HOG Texture Space	Trivial Feature Space	Autocorrelation Feature Space
					Space
1					
	7 of 8 participants approved of all the tiles	7 of 8 participants approved of all the tiles	no participants approved of all tiles	no participants approved of all tiles	no participants approved of all tiles
	V.				
2					
	7 of 8 participants approved of all the tiles	7 of 8 participants approved of all the tiles	1 of 8 participants approved of all the tiles	no participants approved of all tiles	no participants approved of all tiles



Image by Flicker user Benimoto, under the Creative Common Attribution 2.0 Generic License http://flic.kr/p/2SPWCk

run	2-moments	5-moments	HOG Texture Space	Trivial Feature Space	Autocorrelation Feature Space
		66 MS 65 MS			
1					
_	6 of 8 participants approved of all the tiles	7 of 8 participants approved of all the tiles	no participants approved of all tiles	7 of 8 participants approved of all the tiles	no participants approved of all tiles
		and the same of the same			
2					
	7 of 8 participants approved of all the tiles	8 of 8 participants approved of all the tiles	no participants approved of all tiles	6 of 8 participants approved of all the tiles	no participants approved of all tiles



Image by Flicker user mikebaird, under the Creative Common Attribution 2.0 Generic License http://flic.kr/p/8nFgCE

run	2-moments	5-moments	HOG Texture Space	Trivial Feature Space	Autocorrelation Feature Space
		医艾克氏			
1	<b>交叉医</b>				
	7 of 8 participants approved of all the tiles	8 of 8 participants approved of all the tiles	4 of 8 participants approved of all the tiles	1 of 8 participants approved of all the tiles	no participants approved of all tiles
2					
	8 of 8 participants approved of all the tiles	8 of 8 participants approved of all the tiles	4 of 8 participants approved of all the tiles	1 of 8 participants approved of all the tiles	no participants approved of all tiles



Image by Flicker user Hryck, under the Creative Common Attribution 2.0 Generic License http://flic.kr/p/5RTemC

run	2-moments	5-moments	HOG Texture Space	Trivial Feature Space	Autocorrelation Feature Space
				影響處疑	* 12 to 31
			进行的		F 12 22 22
1				图 沙 差 集	1 3 2
	3 of 8 participants approved of all the tiles	1 of 8 participants approved of all the tiles	3 of 8 participants approved of all the tiles	no participants approved of all tiles	no participants approved of all tiles
				影響機變	
2					1 3 5
	2 of 8 participants approved of all the tiles	2 of 8 participants approved of all the tiles	3 of 8 participants approved of all the tiles	no participants approved of all tiles	no participants approved of all tiles



Image by Flicker user Ian Sane, under the Creative Common Attribution 2.0 Generic License http://flic.kr/p/dyHZ2Y

run	2-moments	5-moments	HOG Texture Space	Trivial Feature Space	Autocorrelation Feature Space
		<b>发发</b>			
1				総品社会	
	2 of 8 participants approved of all the tiles	4 of 8 participants approved of all the tiles	no participants approved of all tiles	no participants approved of all tiles	no participants approved of all tiles
		12 18 18 18 18 18 18 18 18 18 18 18 18 18	多多数以		
2				<b>经是先</b> 法	
	1 of 8 participants approved of all the tiles	2 of 8 participants approved of all the tiles	no participants approved of all tiles	1 of 8 participants approved of all the tiles	no participants approved of all tiles



Image by Flicker user Micky\*\*, under the Creative Common Attribution 2.0 Generic License http://flic.kr/p/mwsax

run	2-moments	5-moments	HOG Texture Space	Trivial Feature Space	Autocorrelation Feature Space
	學 图 蒙 數	类更为以	原思民		
		<b>位等图数</b>			100 年
1	學法為漢	全學是表	変 & 語 繁	图 图 图 查	
	6 of 8 participants approved of all the tiles	6 of 8 participants approved of all the tiles	no participants approved of all tiles	6 of 8 participants approved of all the tiles	no participants approved of all tiles
		类型光层			
					<b>建</b> 班 班
2		全學 怎么	<b>安慰工業</b>	图 图 图 查	
	7 of 8 participants approved of all the tiles	7 of 8 participants approved of all the tiles	no participants approved of all tiles	7 of 8 participants approved of all the tiles	no participants approved of all tiles



Image by Flicker user Tim Green aka atoach, under the Creative Common Attribution 2.0 Generic License http://flic.kr/p/5jY8d4

run	2-moments	5-moments	HOG Texture Space	Trivial Feature Space	Autocorrelation Feature Space
1				<b>运</b> 数数据	
	5 of 8 participants approved of all the tiles	6 of 8 participants approved of all the tiles	no participants approved of all tiles	6 of 8 participants approved of all the tiles	no participants approved of all tiles
		A STATE OF THE STA			
2				等。	
	5 of 8 participants approved of all the tiles	6 of 8 participants approved of all the tiles	no participants approved of all tiles	4 of 8 participants approved of all the tiles	no participants approved of all tiles

## 2 Additional Examples

