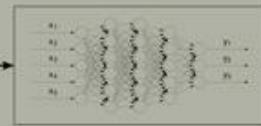
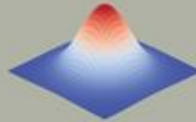


# ADVERSARIAL AUTOENCODER FOR FONT GENERATION

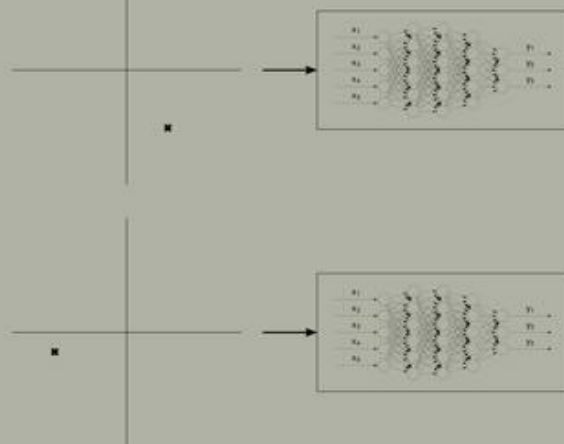
A	B	C	D	E	F	G	H
I	J	K	L	M	N	O	P
Q	R	S	T	U	V	W	X
Y	Z	a	b	c	d	e	f
g	h	i	j	k	l	m	n
o	p	q	r	s	t	u	v
w	x	y	z	0	1	2	3
4	5	6	7	8	9		



A	B	C	D	E	F	G	H
I	J	K	L	M	N	O	P
Q	R	S	T	U	V	W	X
Y	Z	a	b	c	d	e	f
g	h	i	j	k	l	m	n
o	p	q	r	s	t	u	v
w	x	y	z	0	1	2	3
4	5	6	7	8	9		

**JAERYUNG SONG** EE'17  
 ADVISOR: PROF. CHRIS CURRO

I created a model which produces alphanumeric characters of computer generated fonts. I utilized a supervised adversarial autoencoder which learned to separate the character type of an image from its font and mapped the font style onto a multivariate gaussian. I sampled values in this distribution space to generate the entire character set for the corresponding font as shown above. Samples close to each other generated similar fonts, creating a gradient of font mixtures in the distribution space. I adapted the recently developed Wasserstein GAN algorithm to my neural network to improve its convergence rate and stability.



A	B	C	D	E	F	G	H
I	J	K	L	M	N	O	P
Q	R	S	T	U	V	W	X
Y	Z	R	B	C	O	E	S
g	h	i	j	k	l	m	r
o	p	q	r	s	t	u	v
w	x	y	z	0	1	2	3
4	5	6	7	8	9		

A	B	C	D	E	F	G	H
I	J	K	L	M	N	O	P
Q	R	S	T	U	V	W	X
Y	Z	a	b	c	d	e	f
G	H	I	J	K	L	M	I
O	P	Q	R	S	T	U	V
w	x	y	z	0	1	2	3
4	5	6	7	8	9		