Zili Xie

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EDUCATION		
New York Univer	sity, Brooklyn, NY	09/ 2019 - present
Master of Scienc	e in Computer Science GPA:3.89	
University of Tor	onto, St. George, Toronto, ON, Canada	09/ 2014 - 05/ 2019
Bachelor of Scier	ice with <u>Distinction</u> Specialist in Computer Science & Minor in Statistics	
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Languages.	Python C/C++ Java SOL Linux shell HTML CSS Javascrint R Racket GLSL PHP	
MI framworks	Tensorflow Pytorch Keras Vision/Granhic: OnenCV OnenGL Figen	
Database:	SQLite. MvSQL. Postgres MongoDB big data: Pvspark. Mapreduce.	
Web Develop:	Bootstrap, d3is, jQuery, Node is, React is	
WORK & RESEA	RCH EXPERIENCES	
R&D Engineer, 4	D Shoetech, Guangzhou	05/ 2020 - present
Research	& Develop SVBRDF acquisition algorithms for Material scanner. Designed a U-Net deep le	earning architecture
that is cap	bable of recovering spatial-varying BRDF parameters: diffuse albedo, specular albedo, spec	ular roughness and
per-pixel i	normal given photos taken under different light angles as input.	
Designed	algorithm for automatic synthesis of seamless and tileable textures.	05/2017 04/2018
DevOps & Soluti	on Engineer, Ontario Teachers' Pension Plan, Toronto	05/201/-04/2018
- Created C	e for project deployments and Sonatype Nexus for artifacts management	roject building,
 Created n 	roject templates in lenkins and Urbancode for the DevOns group	
 Designed 	a distributed continuous integration system that masters all the integrated build jobs and	deploy
processes. The system automatically distributes incoming build jobs to an idle Jenkins server that is the least		
frequently used, and triggers deploy process once the build job is finished.		
 Developed 	an ASP.NET Web application that allows enterprise Github users to quickly retrieve olde	r version of repos
and down	load the codes in zip file based on repo name, tag or release version.	
PROJECTS		07/000
Material Scanne	e <u>r Simulator</u> (Iensorflow, Keras, OpenCV)	07/2020
- Take the	erent light sources	os of materials taken
 Designed 	and implemented a U-Net deep learning model that translates simulated photos render	ed under 16 different
light direc	tions into the 4 maps: diffuse map, specular map, normal map and glossiness map.	
Image Colorizati	on & Model Visualization (python3, pytorch, d3js)	03/ 2020
 Read rese 	arch papers and developed a CNN classification method to colorize grey-scale images. The	e architecture of
my deep l	earning model uses U-Net structure to improve performance.	• 1
 Trained m satisfactor 	y model on a reasonable amount of images of street, buildings, forest and mountains. Acr	neved
■ Created a	web visualization tool that visualize the model internals using d3is	
Procedural Nois	e & Relief Mapping 3D Scene Editor (C++, glsl, OpenGL)	12/ 2019
 Developed 	a 3D Scene Editor in C++ and OpenGL that allow user to create scenes and animations of	omposed of
multiple 3	D objects. Texture mapping, normal mapping and relief mapping are enabled to render th	e realistic surface
details of	the objects. The improved perlin noise is applied to simulate the undulating & bumpy text	ure of materials.
NYC Open Data	<u>Analysis</u> (Pyspark, lime)	12/2019
 Create ge 	neric profiling for each dataset in NYCOpenData collection (1900 datasets in total) using j	byspark. For each
column in values an	d data types	top-5 frequent
 Identify a 	nd summarize the semantic types presents in each column. Various techniques such as re-	ular expression
keywords	levenshtein distance and machine learning are applied to improve accuracy.	Sanar expression,
Ray Tracer (C++,	Eigen, Intel tbb)	10/ 2019
 Developed 	a CPU raytracing program with texture mapping options, that produces accurate scenes	illumination using
the Blinn-	Phong reflection model. Intel TBB is also integrated to the program to use parallel compu	tation over all
cores.		00/0010
Kegion Filling an	a Object Removal by Image Inpainting (python2, numpy, OpenCV, Kivy)	03/ 2019
- implemen	teo ao muaye mnammo non manican tenove any oniects in image and retill the linknow/	i region using
Web Application	s Exemplar-Based Image Innainting technique	8 8
web Annication	s Exemplar-Based Image Inpainting technique. Designforum (lavascript, NodelS, Express, IQuery, CSS, FIS, MongoDB)	12/ 2016
Developed	s Exemplar-Based Image Inpainting technique. <u>Designforum</u> (Javascript, NodeJS, Express, JQuery, CSS, EJS, MongoDB) I a web application for designers to display their products of art. design. or creative ideas	12/ 2016 using Node.is to

- server part, EJS to make front-end and MongoDB for data storage.
 Third-part user authentication: Login using Facebook account without signing up in the form.
- Administrative View: Admin users have their own view that allow them to view and edit all other user profiles.