

Yewen (Evan) Pu

yewen.pu@autodesk.com

<https://evanthebouncy.github.io/>

Employment

Autodesk Research	2020 -
Senior Research Scientist	
<ul style="list-style-type: none">- code generation for computer-aided designs- industry scale multi-modal data curation for instruction tuning	
Massachusetts Institute of Technology	2019 - 2020
Postdoctoral Researcher	
<ul style="list-style-type: none">- program synthesis and computational cognitive science	
Massachusetts Institute of Technology	2012 - 2019
Graduate Student Researcher	
<ul style="list-style-type: none">- program synthesis and active learning	
Learnable.ai	2018 - 2019
Machine Learning Advisor	
<ul style="list-style-type: none">- ML + building data annotation pipeline for ML	
Microsoft Research	2018 summer
Research Intern	

Education

Massachusetts Institute of Technology	2019
PhD of Computer Science	
Advisors: Armando Solar-Lezama, Leslie Kaelbling	
University of California, Berkeley	2011
B.A. of Computer Science	
B.A. of Mathematics (with high honor)	

Selected Publications

ECCV 2024	Sifan Wu, Amir Hosein Khasahmadi, Mor Katz, Pradeep Kumar Jayaraman, Yewen Pu , Karl Willis, Bang Liu
	CadVLM: Bridging Language and Vision in the Generation of Parametric CAD Sketches

C&C 2024	William McCarthy, Justin Matejka, Karl Willis, Judith Fan, Yewen Pu Communicating Design Intent Using Drawing and Text
ICML 2024	Yewen Pu , Saujas Vaduguru, Priyan Vaithilingam, Elena Glassman, Daniel Fried Amortizing Pragmatic Program Synthesis with Rankings
ICLR 2024	Ruocheng Wang, Eric Zelikman, Gabriel Poesia, Yewen Pu , Nick Haber, Noah D Goodman Hypothesis search: Inductive reasoning with language models
ICLR 2024	Saujas Vaduguru, Daniel Fried, Yewen Pu Generating Pragmatic Examples to Train Neural Program Synthesizers
NeurIPS 2023	Di Huang, Ziyuan Nan, Xing Hu, Pengwei Jin, Shaohui Peng, Yuanbo Wen, Rui Zhang, Zidong Du, Qi Guo, Yewen Pu , Yunji Chen ANPL: Towards Natural Programming with Interactive Decomposition
NeurIPS 2022 (Oral)	Sam Acquaviva*, Yewen Pu* , Marta Kryven, Theodoros Sechopoulos, Catherine Wong, Gabrielle Ecanow, Maxwell Nye, Michael Tessler, Josh Tenenbaum Communicating natural programs to humans and machines
SIGGRAPH 2021	Karl DD Willis, Yewen Pu , Jieliang Luo, Hang Chu, Tao Du, Joseph G Lambourne, Armando Solar-Lezama, Wojciech Matusik Fusion 360 gallery: A dataset and environment for programmatic cad construction from human design sequences
NeurIPS 2021	Yichen Yang, Jeevana Priya Inala, Osbert Bastani, Yewen Pu , Armando Solar-Lezama, Martin Rinard Program synthesis guided reinforcement learning for partially observed environments
ICLR 2021	Maxwell Nye, Yewen Pu , Matthew Bowers, Jacob Andreas, Joshua B Tenenbaum, Armando Solar-Lezama Representing partial programs with blended abstract semantics

NeurIPS 2020	Jeevana Priya Inala, Yichen Yang, James Paulos, <u>Yewen Pu</u> , Osbert Bastani, Vijay Kumar, Martin Rinard, Armando Solar-Lezama Neurosymbolic Transformers for Multi-Agent Communication
NeurIPS 2020	<u>Yewen Pu</u> , Kevin Ellis, Marta Kryven, Josh Tenenbaum, Armando Solar-Lezama Program synthesis with pragmatic communication
NeurIPS 2019	Kevin Ellis*, Maxwell Nye*, <u>Yewen Pu</u> *, Felix Sosa*, Josh Tenenbaum, Armando Solar-Lezama Write, execute, assess: Program synthesis with a repl
NeurIPS 2019	Charith Mendis, Cambridge Yang, <u>Yewen Pu</u> , Dr Saman Amarasinghe, Michael Carbin Compiler auto-vectorization with imitation learning
NeurIPS 2018	Osbert Bastani, <u>Yewen Pu</u> , Armando Solar-Lezama Verifiable reinforcement learning via policy extraction
SIGGRAPH Asia 2018	Tao Du, Jeevana Priya Inala, <u>Yewen Pu</u> , Andrew Spielberg, Adriana Schulz, Daniela Rus, Armando Solar-Lezama, Wojciech Matusik Inversecsg: Automatic conversion of 3d models to csg trees
ICML 2018 (Oral)	<u>Yewen Pu</u> , Zachery Miranda, Armando Solar-Lezama, Leslie Kaelbling Selecting representative examples for program synthesis
UAI 2017	<u>Yewen Pu</u> , Leslie P Kaelbling, Armando Solar-Lezama Learning to acquire information
OOPSLA 2016 (workshop)	<u>Yewen Pu</u> , Karthik Narasimhan, Armando Solar-Lezama, Regina Barzilay sk_p: a neural program corrector for MOOCs
POPL 2013	Ali Koksai, <u>Yewen Pu</u> , Saurabh Srivastava, Rastislav Bodik, Jasmin Fisher, Nir Piterman Synthesis of biological models from mutation experiments

OOPSLA 2011 Yewen Pu, Rastislav Bodik, Saurabh Srivastava
Synthesis of first-order dynamic programming algorithms

Preprints

arxiv 2024 Xianghao Xu, Aditya Ganeshan, Karl DD Willis, Yewen Pu, Daniel Ritchie
Creating Language-driven Spatial Variations of Icon Images

arxiv 2023 Leonardo Hernandez Cano, Yewen Pu, Robert Hawkins, Josh Tenenbaum,
Armando Solar-Lezama
Building Community Driven Libraries of Natural Programs

arxiv 2023 Priyan Vaithilingam, Yewen Pu, Elena L Glassman
The Usability of Pragmatic Communication in Regular Expression Synthesis

Invited Talks

Pragmatic Program Synthesis @ Design Lab Research Meeting Invited Guest Talk	2024 May
Pragmatic Program Synthesis @ Vienna University of Technology	2024 May
Pragmatic Program Synthesis @ Cocosci Lunch / MIT	2024 May
Pragmatic Program Synthesis @ Neuro-Symbolic Seminar / MIT	2024 March
Pragmatic Program Synthesis @ UCSD PL Seminar	2024 Feb
Natural Programming in Communicating Designs @ 2023 Frontiers in Design Representation Summer School	2023 June
Programming as Collaborative Search @ Stanford cocolab	2023 April
Communicating Natural Programs to Humans and Machines @ carper.ai	2022 Nov

LARC : Language annotated Abstraction and Reasoning Corpus @ MIT cocosci	2021 April
Program Synthesis with Pragmatic Communication @ MIT Cpl-lab	2021 Jan
Program Synthesis with Pragmatic Communication @ Ras Bodik Group @ University of Washington	2020 Nov
Program Synthesis with Pragmatic Communication @ PL Seminar @ UCSD	2020 Oct
Program Synthesis with Pragmatic Communication @ Stanford cocolab	2020 Aug
Program Synthesis with Pragmatic Communication @ Variation Lab @ Harvard SEAS	2020 June
Program Synthesis as Communication @ Autodesk	2020 March
Program Synthesis as Communication @ Deepmind	2019 Dec
Program Synthesis : From Communication to Computation @ Machine Programming Group @ Intel Labs	2019 Nov
Write, Execute, Assess: Program Synthesis with a REPL @ Google Brain	2019 Oct
Write, Execute, Assess: Program Synthesis with a REPL @ Facebook	2019 Oct

Advising

(CMU) Saujas Vaduguru, with Daniel Fried	2021 -
(MIT) Leonardo Hernández Cano, with Armando Solar-Lezama	2020 -
(CAS) Di Huang	2022 -
(Cornell) WenDing Li, with Kevin Ellis	2024 -
(Stanford) Rio Aguina-kang, with Judith Fan	2024 -
(Brown) Xianghao Xu, with Daniel Ritchie	2023 -

(UCSD) William McCarthy, with Judith Fan	2023 - 2024
(MIT) Sam Acquaviva, with Josh Tenenbaum	2020 - 2024
(Stanford) Ruocheng Wang, with Noah Goodman	2023 - 2023
(UCSD) Zhiao Huang, with Chuang Gan	2023 - 2023
(Harvard) Priyan Vaithilingam, with Elena Glassman	2022 - 2023

Services

Thesis Committee

Samuel Acquaviva, 2024 (Master)	Massachusetts Institute of Technology
Fernando Abigail Galicia Mendoza, 2023 (PhD)	Universidad Nacional Autónoma de México

Reviewer

NeurIPS	2018 -
ICML	2018 -
ICLR	2020 -
CogSci	2022 -
AAAI	2023
UIST	2023 -
ACL / EMNLP	2023 -
UAI	2018