

Yuecheng Li

<https://harry-li-27.github.io/>

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EDUCATION

- University of Southern California
Ph.D. in Computer Science Expected Graduation Date: May 2027
GPA: 4.0
- University of Southern California
Master of Science in Computer Science Expected Graduation Date: May 2023
GPA: 3.71/4.0
- University of Illinois at Urbana-Champaign
Bachelor of Science in Mathematics & Computer Science Graduation Date: May 2021
GPA: 3.82/4.0
Bachelor of Science in Psychology
Dean's List: Fall 2017, Spring 2018, Fall 2018, Spring 2019, Spring 2020

Publication

- CALT: Channel-wise Adaptive Linear Transformation for Continual Learning (*ICCV 2023*)
Yunhao Ge, Yuecheng Li, Shuo Ni*, Jiaping Zhao, Ming-Hsuan Yang, Laurent Itti*
- Shared Knowledge Lifelong Learning (*TMLR*)
Yunhao Ge, Yuecheng Li, Di Wu*, Ao Xu*, Adam M. Jones, Amanda Sofie Rios, Iordanis Fostirooulos, shixian wen, Po-Hsuan Huang, Zachary William Murdock, Kiran Lekkala, Gozde Sahin, Sumedh Anand Sontakke, Laurent Itti*

RESEARCH EXPERIENCE

- **CNRL [Supervised by Prof. Nicolas Schweighofer]** Los Angeles, CA
Keywords: AI for Science, Bayesian Inference, Reinforcement Learning
April 2023 – Present
 - Developing **Reinforcement Learning model** for human motor learning and used **Bayesian Inference** to estimate the parameters. Also investigating in Continual Reinforcement Learning
- **iLab [Supervised by Prof. Laurent Itti]** Los Angeles, CA
Keywords: Transfer Learning, Continual Learning
Dec 2021 – Aug 2023
 - Created algorithm for **transfer and continual learning** with SOTA performance (86.25% (ours) vs. 81.53% (Head2Toe) in transfer learning and vs. 56.69% (Supermasks in Superposition) in continual learning) and low extra memory (only 0.59% extra parameters needed)
 - Defined a multi-agent life-long learning task, created a dataset (>100 tasks) for the problem, and achieved SOTA performance compare to other algorithms such as GEM and derpp. (60% (ours) compare to 32%) with lower memory cost and less training time
 - Created three websites for publications in lifelong learning on different projects.
- **ICAROS [Supervised by Prof. Stefanos Nikolaidis]** Los Angeles, CA
Keywords: Quality Diversity Algorithm, Optimization
Sep 2021 – May 2022
 - Applied **Differentiable Quality Diversity** algorithm to generate numerous valid solutions within a given measurement
 - Generated life-like digits images for the MNIST generation task with various likelihoods of digits other than themselves
- **ISI [Supervised by Prof. Emilio Ferrara]** Los Angeles, CA
Keywords: Natural Language Process
Sep 2021 – May 2022
 - Created an algorithm to identify the meaning of newly emerging words on the Internet with FastText
 - Utilized **nlTK** and **FastText** for data preprocessing and word encoding respectively
- **Intelligent Motion Laboratory [Supervised by Prof. Kris Hauser]** Champaign, IL
Keywords: Robotic
Aug 2019 – May 2021
 - Created an API to control the gripper of a nursing robot to complete pick, grab and deliver tasks. Created the program for 3D object segmentation using clustering for the robot to “see” the object. Created algorithm to generate grasping policy with **DQCNN** for robots to successfully pick the target
 - Earned a finalist position in ANA Avatar XPRIZE Competition

WORK EXPERIENCE

- **Anlogic Co. Ltd.** Shanghai, China
May 2019 – Aug 2019
 - Developed algorithms using machine learning and statistical modeling techniques to increase performance, quality, data management, and accuracy
 - Optimized the company's product – **segmentation network**'s size by 10% using pruning and quantization technique
 - Decreased time and memory utilization without a statistically significant decrease in accuracy

PERSONAL PROJECTS

- **Identified Hard Instance for Polarity Classifier** Los Angeles, CA
Mar 2022 – May 2022
 - Created a paradigm to reweight the training set for **Naïve Bayes Classifier** and result in a 4% accuracy increase
 - Reached a closed result compared to modern approaches like FastText Linear Classifier but much less time for training

KEY SKILLS

- **Tools:** Pytorch, Tensorflow, Python, C, C++, Java, Ubuntu, R, ROS, Haskell
- **Methodology:** Computer Vision, Deep Learning, Transfer Learning, Trustworthy AI, Natural Language Processing