LETIAN (MAX) FU

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EDUCATION

University of California, Berkeley *August 2023 - May 2028*
1st year PhD. Electrical Engineering and Computer Sciences.

University of California, Berkeley *August 2018 - May 2023*
B.A./M.S. Computer Science and Applied Mathematics. GPA: 3.92
Course Highlights: CS282A (Deep Neural Network Architecture), CS280 (Computer Vision), CS288 (Natural Language Processing), CS285 (Deep Reinforcement Learning), EE290 (Theory of Multi-armed Bandits and RL), CS294-190 (Advanced Topics in Learning and Decision Making), EE106A (Introduction to Robotics), CS189 (Introduction to Machine Learning), EECS127 (Optimization Models in Engineering), CS170 (Efficient Algorithms and Intractable Problems).

PUBLICATIONS

- Ilija Radosavovic, Baifeng Shi, **Letian Fu**, Ken Goldberg, Trevor Darrell, Jitendra Malik. Robot Learning with Sensorimotor Pre-training. *Proceedings of 2023 Conference on Robot Learning* (Oral). Atlanta, US. Nov, 2023.
- **Letian Fu**, Huang Huang, Lars Berscheid, Hui Li, Ken Goldberg, Sachin Chitta. Safely Learning Visuo-Tactile Feedback Policies in Real For Industrial Insertion. *Accepted by 2023 IEEE International Conference on Robotics and Automation*. London, UK. May, 2023.
- Justin Kerr, **Letian Fu**, Huang Huang, Jeffrey Ichnowski, Matthew Tancik, Yahav Avigal, Angjoo Kanazawa, Ken Goldberg. EvoNeRF: Evolving NeRF for Sequential Robot Grasping. *Proceedings of 2022 Conference on Robot Learning* (Oral). Auckland, NZ. Dec. 2022.
- Huang Huang*, **Letian Fu***, Michael Danielczuk, Chung Min Kim, Zachary Tam, Jeffrey Ichnowski, Anelia Angelova, Brian Ichter, Ken Goldberg. Mechanical Search on Shelves with Efficient Stacking and Destacking of Objects. *Proceedings of 2022 International Symposium on Robotics Research*. Geneva, Switzerland. Sep, 2022.
- **Letian Fu**, Michael Danielczuk, Ashwin Balakrishna, Daniel S. Brown, Jeffrey Ichnowski, Eugen Solowjow, Ken Goldberg. LEGS: Learning Efficient Grasp Sets for Exploratory Grasping. *Proceedings of 2022 IEEE International Conference on Robotics and Automation*. Philadelphia, PA. May, 2022.
- Huang Huang, Michael Danielczuk, Chung Min Kim, **Letian Fu**, Zachary Tam, Jeffrey Ichnowski, Anelia Angelova, Brain Ichter, Ken Goldberg. Mechanical Search on Shelves using a Novel Bluction Tool. *Proceedings of 2022 IEEE International Conference on Robotics and Automation*. Philadelphia, PA. May, 2022.
- Yeshwant Reddy Chillakuru, Kyle Kranen, Vishnu Doppalapudi, Zhangyuan Xiong, **Letian Fu**, Aarash Heydari, Aditya Sheth, Youngho Seo, Thienkhai Vu, Jae Ho Sohn. High precision localization of pulmonary nodules on chest CT utilizing axial slice number labels. *BMC Med Imaging* 21, 66 (2021).

RESEARCH AND WORK

Graduate Student Researcher *January 2021 - Present*
Berkeley Artificial Intelligence Research, AUTOLAB

Advised by Prof. Ken Goldberg. Currently working on vision, multimodal, and sensorimotor pretraining; works accepted to ICRA, ISRR, and CoRL.

Robotics Research Intern *March 2022 - September 2022*
Autodesk

Advised by Sachin Chitta and Hui Li; researched on enabling robots to safely perform industrial insertion tasks with vision, tactile, and force-torque feedback; research conducted on a Franka Emika robot; the resulting publication is submitted to ICRA 2023.

Machine Learning Intern *June 2020 - September 2020*
Apple

Advised by Daniel Ulbricht and Mohammad Haris Baig; applied computer vision and deep learning to internal development; researched, designed and implemented real-time semantic segmentation algorithms; improved semantic segmentation performance by leveraging geometrical priors; designed new metrics and benchmarked the developed algorithms; developed model evaluation and visualization pipelines.

Undergraduate Research Apprentice *September 2019 - September 2020*
University of California, San Francisco

Advised by professor Youngho Seo and Jae Ho Sohn, MD, MS to apply computer vision algorithms to clinical data. Develop a toolkit to visualize lung tumor data from LUng Module Analysis (LUNA) and The National Lung Screening Trial (NLST). Search for lung tumors via CenterNet and RetinaNet; work accepted at BMC Med Imaging.

Undergraduate Research Apprentice *September 2018 - September 2019*
Berkeley Institute for Data Science

Advised by Maryam Vareth, PhD to apply deep learning algorithms to medical imaging. Co-organized biweekly seminar on computer vision papers. Analyzed brain magnetic resonance imaging (MRI) scans from the Multimodal Brain Tumor Segmentation Challenge (BraTS) and created a novel architecture based on Convolutional LSTM to perform brain tumor segmentation.

TEACHING

Undergraduate Student Instructor *January 2021 - May 2021*
University of California, Berkeley

Undergraduate Student Instructor (UGSI) for CS 182/282A: Deep Neural Network Architecture (class taught by Prof. Sergey Levine); held weekly discussion section and office hours; drafted midterms; worked as one of the four Piazza co-leads to respond to students' questions online; guided students to debug their implementations of neural networks.

Reader *September 2021 - May 2022*
University of California, Berkeley *September 2020 - December 2020*

Reader for EECS127 (Fall 2021): Optimization Models in Engineering. Reader for CS 170 (Fall 2020): Efficient Algorithms and Intractable Problems. Created homework rubric, graded homework, and led office hours and homework party on a weekly basis.

Teaching Assistant *June 2019 - August 2019*
University of California, Berkeley

Teaching assistant for Professor Arash Farahmand in teaching *Math 1B: Calculus II* (Summer Session, Section 4). Graded homework of a class of 31 on a weekly basis and taught students to write basic proofs.

MISC.

Reviewer: ICRA, IROS, ISRR, CASE, CoRL, RAL
Programming languages: Python, Java, C, MATLAB
Robots that I worked with: ABB YuMi, Fetch, Franka Emika
Packages: PyTorch, Numpy, ROS, Keras, Fusion 360