LETIAN (MAX) FU

1914B Seventh Street, Berkeley, CA, 94710
(510)859-6247 ⋄ max.fu.letian@gmail.com ⋄ max.fu.letian@berkeley.edu

EDUCATION

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

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

RESEARCH AND WORK

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

Advised by Prof. Ken Goldberg. Collaborated with PhD student Huang Huang, Justin Kerr, Chung Min Kim, Dr. Michael Danielczuk, Dr. Ashwin Balakrishna, Prof. Jeff Ichnowski and Prof. Daniel Brown; currently working on using large vision models to train robots. Worked on using neural radiance field for robotics grasp synthesis; worked on calibrating general purpose grasping neural network for novel and adversarial objects via multi-armed bandit algorithms; worked on mechanical search in shelves; works accepted to ICRA 2022, ISRR 2022, and CoRL 2022.

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 and is currently under review.

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 2023, IROS 2022, ISRR 2022, CASE 2022
Programming languages: Python, Java, C, MATLAB
Robots that I worked with: ABB YuMi, Fetch, Franka Emika
Packages: Keras, PyTorch, Numpy, ROS, Fusion 360