Baiyu Shi

(510) 219-0132 • baiyushi@stanford.edu • Personal Webpage

RESEARCH INTERESTS

Robotics: Chemical and Haptics Sensing, Human-robot Interaction, Medical Robotics, Robot Learning and Manipulation.
Wellness Monitoring: Biosensors, BioMEMS, Biophotonics, Wearables, Organ-on-a-Chip.

EDUCATION

University of California, Berkeley   **Berkeley, CA**
B.S. Bioengineering, Electrical Engineering and Computer Science (High Honors)   *September 2019 – May 2023*

- GPA: **3.965**/4.00.
- Advisors: Professor Robert J. Full, Professor Ken Goldberg, and Professor Gerard Marriott.
- Awards: UC Berkeley **Departmental Citation** in Bioengineering, 2023 Outstanding Graduate Student Instructor.

PUBPLICATION

[4] **Bagging by Learning to Singulate Layers Using Interactive Perception.**
Lawrence Yunliang Chen, **Baiyu Shi**, Roy Lin, Daniel Seita, Ayah Ahmad, Richard Cheng, Thomas Kollar, David Held, Ken Goldberg.   *IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS), October* 2023, Detroit, USA.

[3] **A Trimodal Framework for Robot-Assisted Vascular Shunt Insertion When a Supervising Surgeon is Local, Remote, or Unavailable.**
Karthik Dharmarajan*, Will Panitch*, **Baiyu Shi**, Huang Huang, Lawrence Yunliang Chen, Thomas Low, Danyal Fer, Ken Goldberg.   *IEEE International Symposium on Medical Robotics (ISMR)*, April 2023, Atlanta, USA.

[2] **AutoBag: Learning to Open Plastic Bags and Insert Objects.**
Lawrence Yunliang Chen, **Baiyu Shi**, Daniel Seita, Richard Cheng, Thomas Kollar, David Held, Ken Goldberg.
                     IEEE International Conference on Robotics and Automation (ICRA), May 2023, London, UK.

[1] **Automating Vascular Shunt Insertion with the dVRK Surgical Robot.**
Karthik Dharmarajan*, Will Panitch*, Muyan Jiang, Kishore Srinivas, **Baiyu Shi**, Yahav Avigal, Huang Huang, Thomas Low, Danyal Fer, Ken Goldberg.   *IEEE International Conference on Robotics and Automation (ICRA)*, May 2023, London, UK.

WORK & TEACHING EXPERIENCE

Shanghai View Precision Machinery Co.   **Shanghai, China**
Role: Mechanical Engineer Intern in Mold Design and Quality Control   *Jan 2021- Mar 2021*

- Designed molds via AutoCAD for cold forging presses and coded Mazak CNC machines to manufacture gears in electrical tools.
- Conducted metallographic analysis to examine the quality of heat treatment.

BioE 163 Principles of Molecular and Cellular Biophotonics & BioE 163L Molecular and Cellular Biophotonics Laboratory
Role: Graduate Student Instructor (GSI)   **Berkeley, CA** *Aug 2022 – May 2023*

- Led weekly discussions of 30 students covering lecture contents, worksheets, and relevant publications.
- Helped design lab procedures, prepare chemicals, and introduced wet lab experiments on biosensor development.
- Drafted and graded assignments on Gradescope.

PROFESSIONAL SERVICE

Conference Reviewer for *IEEE International Conference on Robotics and Automation (ICRA)*, **2023** and *IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*, **2023**

SKILLS

- **Programming Languages (descending proficiency):** Python, MATLAB, ROS, C++, Java, HTML & CSS, R.
- **Software:** AutoCAD, COMSOL, ImageJ, LaTeX, SolidWorks.
- **Skills:** BioMEMS Design and Fabrication, Circuit Design, CNC Fabrication, ELISA, Fluorescence Microscopy, Metallographic Analysis, PCR, Western Blots, 3D printing.

ACTIVITIES

Berkeley Showcase *Volunteer*   **Berkeley, CA**, *Oct.8th*

- Conducted robotics demos for Bay Area/Northern California students who are underrepresented, first generation, or attending an under-resourced school.