**Baiyu Shi**

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**RESEARCH INTERESTS**

**Robotics**: Bio-inspired Robotics, Chemical and Haptics Sensing, Medical Robotics, Robot Learning and Manipulation.

**Wellness Monitoring:** Biosensors, Wearable Devices, BioMEMS, Biophotonics, 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**

[1] **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.

[2] **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.

[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.

[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.

**WORK & TEACHING EXPERIENCE**

**Shanghai View Precision Machinery Co. Shanghai, China**

***Role: Mechanical Engineer Intern in Mold Design and Quality Control Jan 2021- Mar2021***

* Designed molds via AutoCAD for cold forging presses and coded Mazak CNC machines to manufacture gears in electrical tools.
* Conducted metallographic analysis to examine purity of metals and 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, incorporate in a new set of 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 (with descending proficiency):** Python, MATLAB, Robot Operating System (ROS), C++, Java, 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.