Graduate Projects Meeting
May 1, 2026

Agenda

1. Course Requirements and Procedures
2. Proposal Requirements
3. How to add the course
4. Exploring the available Projects

Course Requirements and Procedures

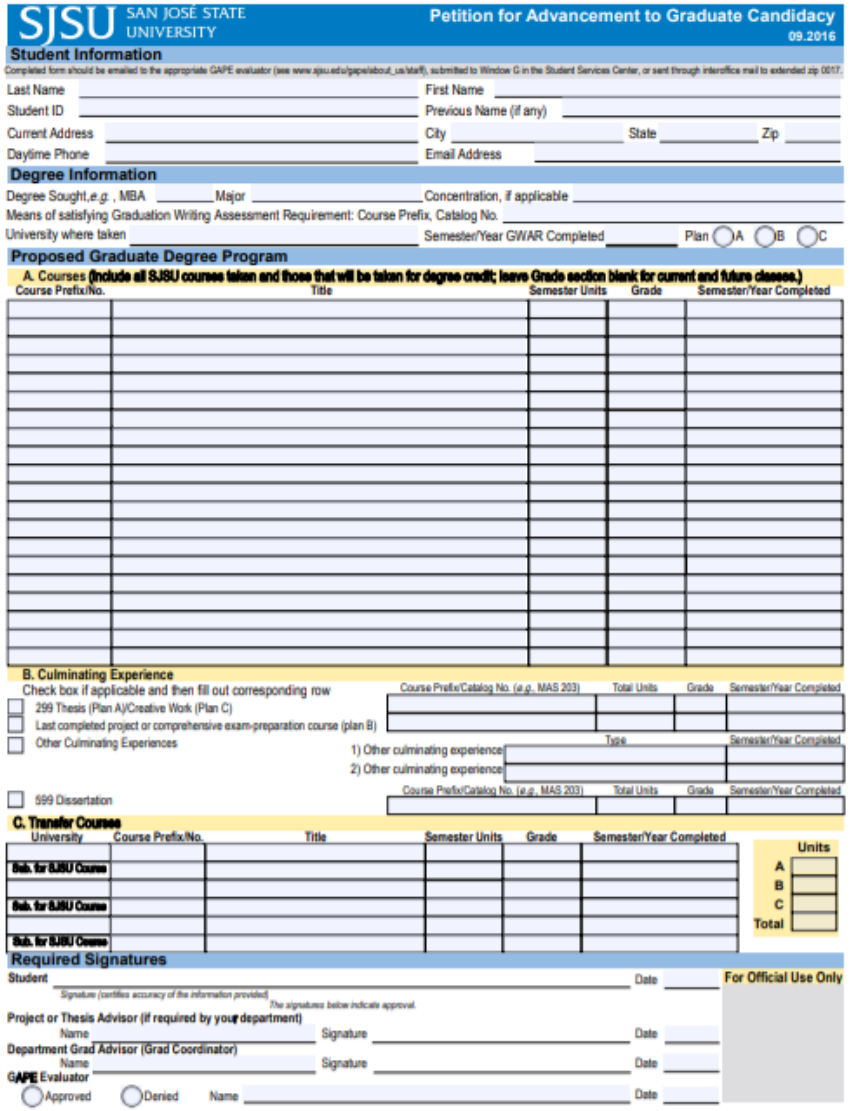
Prerequisites for ME 295 A and ME 299 Course

- Completed at lease nine-units in the program
- Not Conditionally classified
- Approved Candidacy form (or expected to be approved before submission of the project proposal)
- Not on probation

Project Proposal Requirements

1. Have an approved Candidacy Form

Form is available on the ME website



SJSU SAN JOSÉ STATE UNIVERSITY

Petition for Advancement to Graduate Candidacy

09.2016

Student Information

Completed form should be emailed to the appropriate GAPE evaluator (see www.sjsu.edu/gape/about_us/staff), submitted to Window G in the Student Services Center, or sent through interoffice mail to extended zip 0017.

Last Name _____ First Name _____

Student ID _____ Previous Name (if any) _____

Current Address _____ City _____ State _____ Zip _____

Daytime Phone _____ Email Address _____

Degree Information

Degree Sought, *e.g.*, MBA _____ Major _____ Concentration, if applicable _____

Means of satisfying Graduation Writing Assessment Requirement: Course Prefix, Catalog No. _____

University where taken _____ Semester/Year GWAR Completed _____ Plan ◯A ◯B ◯C

Proposed Graduate Degree Program

A. Courses (Include all SJSU courses taken and those that will be taken for degree credit; leave Grade section blank for current and future classes.)

Course Prefix/No.	Title	Semester Units	Grade	Semester/Year Completed

B. Culminating Experience

Check box if applicable and then fill out corresponding row

	Course Prefix/Catalog No. (*e.g.*, MAS 203)	Total Units	Grade	Semester/Year Completed
☐ 299 Thesis (Plan A)/Creative Work (Plan C)				
☐ Last completed project or comprehensive exam-preparation course (plan B)				
☐ Other Culminating Experiences	Type			Semester/Year Completed
1) Other culminating experience				
2) Other culminating experience				
☐ 599 Dissertation	Course Prefix/Catalog No. (*e.g.*, MAS 203)	Total Units	Grade	Semester/Year Completed

C. Transfer Courses

	University	Course Prefix/No.	Title	Semester Units	Grade	Semester/Year Completed
Sub. for SJSU Course						
Sub. for SJSU Course						
Sub. for SJSU Course						

Units	
A	
B	
C	
Total	

Required Signatures

Student _____ Date _____

Signature (certifies accuracy of the information provided)

The signatures below indicate approval.

Project or Thesis Advisor (if required by your department)

Name _____ Signature _____ Date _____

Department Grad Advisor (Grad Coordinator)

Name _____ Signature _____ Date _____

GAPE Evaluator

◯Approved ◯Denied Name _____ Date _____

For Official Use Only

Project Proposal Requirements

Candidacy Form

https://www.sjsu.edu/me/docs/forms_gape-candidacy.pdf

Step-by-step Instructions for Filling out the Form

https://www.sjsu.edu/me/docs/msme_currentstudents-candidacy_form_instructions_02_05_19.pdf

The Proposal

2. A completed proposal should include:

A. The Project Cover Page

B. Approved committee evaluation

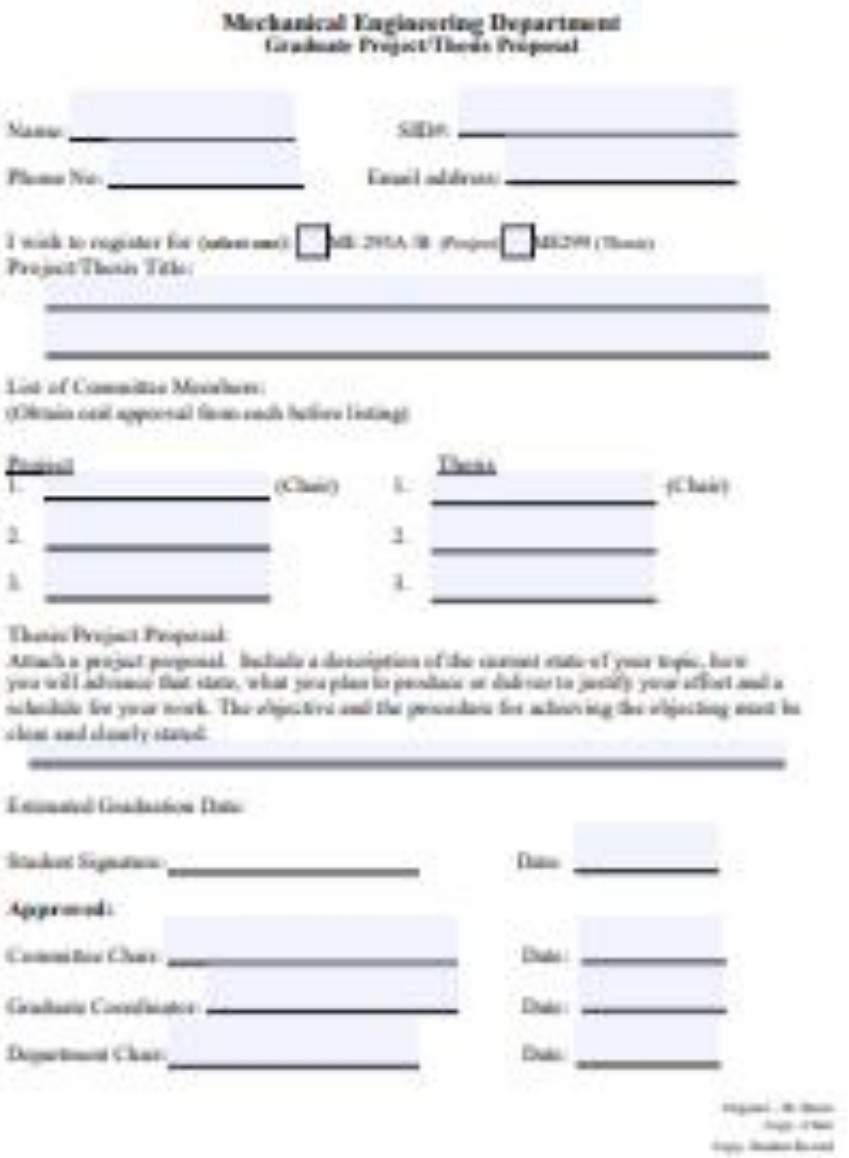
C. Approved Candidacy Form

D. A comprehensive and detailed proposal of the project

NOTE: Submit all the four items in the listed order and as one package

- ***See the ME website for details:***
- ***https://www.sjsu.edu/me/graduate/current-msme/advising/project-and-thesis/project-proposal.php***

A. Project Cover Page



Mechanical Engineering Department
Graduate Project/Thesis Proposal

Name: _____ SID#: _____

Phone No: _____ Email address: _____

I wish to register for (select one): ☐ ME 295A/B (Project) ☐ ME299 (Thesis)

Project/Thesis Title:

_____

_____

List of Committee Members:
(Obtain oral approval from each before listing)

Project		Thesis	
1. _____	(Chair)	1. _____	(Chair)
2. _____		2. _____	
3. _____		3. _____	

Thesis Project Proposal:
Attach a project proposal. Include a description of the current state of your topic, how you will advance that state, what you plan to produce or deliver to justify your effort and a schedule for your work. The objective and the procedure for achieving the objective must be clear and clearly stated.

_____

Estimated Graduation Date:

Student Signature: _____ Date: _____

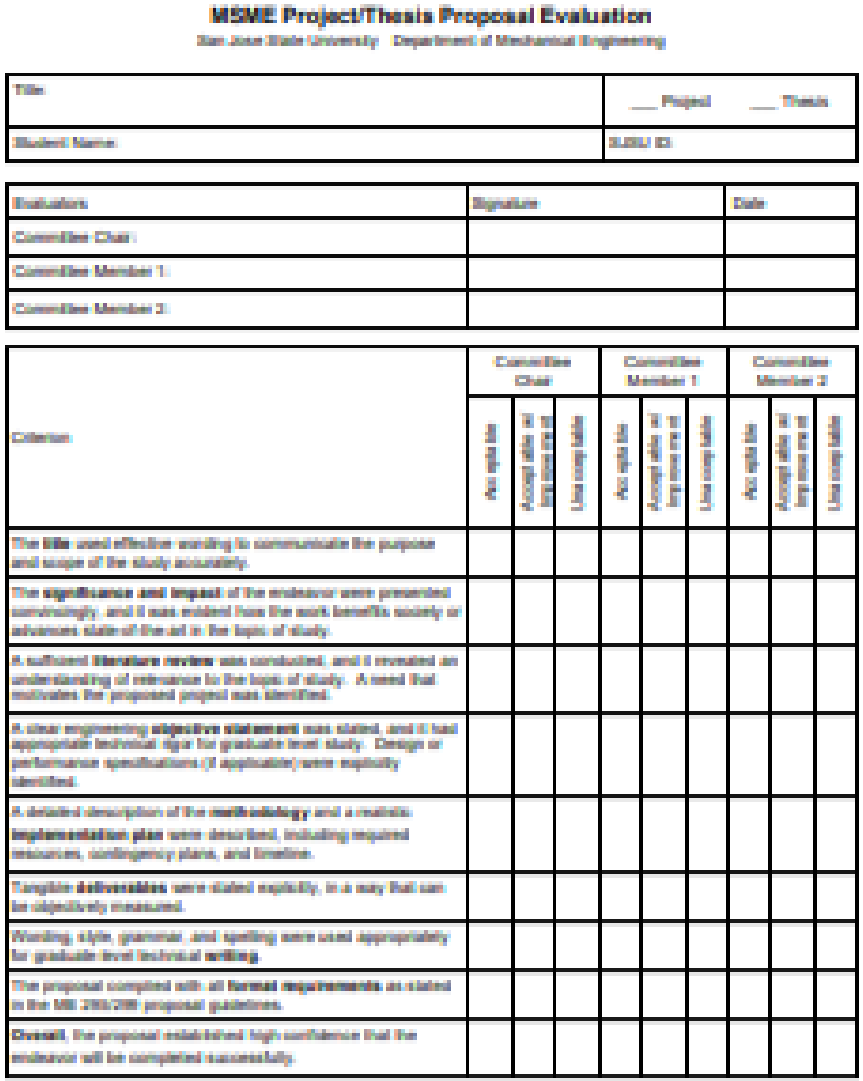
Approved:

Committee Chair: _____ Date: _____

Graduate Coordinator: _____ Date: _____

Department Chair: _____ Date: _____

B. Committee Evaluation Form



MSME Project/Thesis Proposal Evaluation

San Jose State University Department of Mechanical Engineering

Title	___ Project ___ Thesis
Student Name	SJSU ID

Evaluators	Signature	Date
Committee Chair		
Committee Member 1		
Committee Member 2		

Criterion	Committee Chair			Committee Member 1			Committee Member 2		
	Acceptable as is	Acceptable with minor revisions	Unacceptable	Acceptable as is	Acceptable with minor revisions	Unacceptable	Acceptable as is	Acceptable with minor revisions	Unacceptable
The **title** used effective wording to communicate the purpose and scope of the study accurately.									
The **significance and impact** of the endeavor were presented convincingly, and it was evident how the work benefits society or advances state-of-the-art in the topic of study.									
A sufficient **literature review** was conducted, and it revealed an understanding of relevance to the topic of study. A need that motivates the proposed project was identified.									
A clear engineering **objective statement** was stated, and it had appropriate technical rigor for graduate level study. Design or performance specifications (if applicable) were explicitly identified.									
A detailed description of the **methodology** and a realistic **implementation plan** were described, including required resources, contingency plans, and timeline.									
Tangible **deliverables** were stated explicitly, in a way that can be objectively measured.									
Wording, style, grammar, and spelling were used appropriately for graduate level technical **writing**.									
The proposal complied with all **format requirements** as stated in the MS 285/286 proposal guidelines.									
Overall, the proposal established high confidence that the endeavor will be completed successfully.									

3. Have the Proposal Ready

A proposal is considered complete when Signed by:

1. *Your committee Chair*
2. *The Graduate Advisor*
3. *The department Chair*

4. Post-Proposal Requirements

Meet regularly with the committee Chair and the committee members and have them sign the meeting-record form, shown on the next page

Adviser meeting-record form

Mechanical Engineering Department
Graduate Student Thesis/ Project Committee Chair and Members
Consultation Records

Graduate students enrolled in Project/Thesis courses are expected to meet with their study committee chairs a minimum of four (4) periods during each semester, preferably, on a monthly basis and at least one meeting with each committee member. Please be sure to take this sheet to your meetings with your study Committee Chair and Members and request acknowledgement.

Date: _____ Time: _____ Committee Chair Signature: _____

Date: _____ Time: _____ Committee Chair Signature: _____

Date: _____ Time: _____ Committee Chair Signature: _____

Date: _____ Time: _____ Committee Chair Signature: _____

Date: _____ Time: _____ Committee Member Signature: _____

Date: _____ Time: _____ Committee Member Signature: _____

Date written draft report received by the Committee Chair: _____ Date: _____

Students are expected to give this sheet to the Committee Chair on their presentation day.

Student Name: _____

5. Oral Presentation

Make an Oral Presentation:
(Dead day of Classes)

NOTE: This is scheduled by the ME office

5. Oral Presentation

Before the Oral presentation:

Submit a final draft of the final report to your committee members

Deliverables

1. Midterm Report: Check with your committee chair

2. Oral Presentation

3. Final Report (draft): Before you make the Oral presentation

4. Advisory committee consultation form

4. Final Report: For due date, check with your Committee Chair

How to Arrange for the Oral Presentation?

Contact the ME office to schedule your oral presentation. The ME office will contact your advisory committee and schedule your presentation.

How to Add ME 295 A or ME 299

- You must have an **approved** proposal to get an add code.
- After the proposal is fully approved, you can get the add code from the ME office.
- No Pre-registration allowed

Important dates and Deadlines

This Semester:

- **May 1, 2026**
  - *Project Initiation Meeting*
- **May 1, 2026, through May 20, 2026**
  - *1. Search for Possible Projects*
  - *2. Contact ME Professors and select a Committee Chair*
  - *3. Form the advisory committee*
  - *4. Conduct a literature search on the project-topic and prepare a draft of the project proposal.*

Important dates and Deadlines

Next Semester

- **August 20, 2026, through September 8, 2026:**
  - *Finalize the draft of the project proposal*
  - *Have the proposal approved by the advisory committee*
  - *Be ready to submit the proposal to the department office*

- **September 8, 2026:** *Submit the approved proposal to the ME office, for review and approval by the Graduate Advisor and the department Chair*

- **September 15, 2026**: ***Last Day to Add Courses***

Note

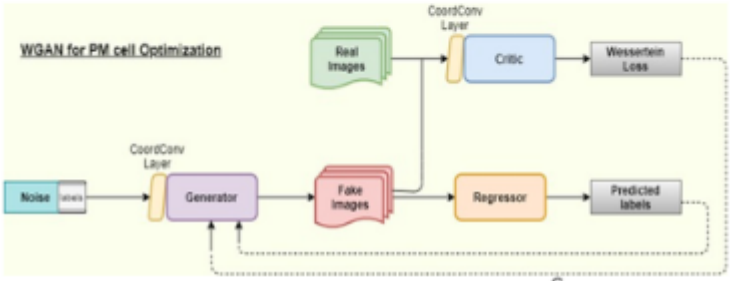
When your proposal is approved by the ME office, you can obtain the add code from the office.

Available Projects

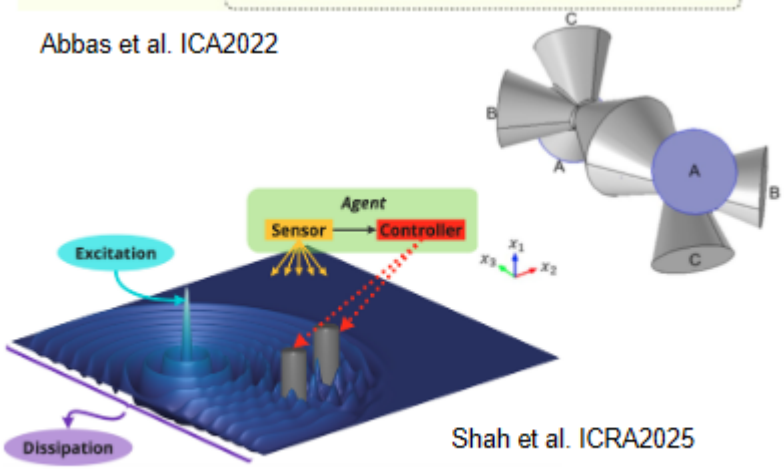
Feruza Amirkulova

Feruza Amirkulova

https://www.sjsu.edu/people/feruza.amirkulova/
https://aferuza2.github.io/
feruza.amirkulova@sjsu.edu



Abbas et al. ICA2022



Shah et al. ICRA2025

Research Interests and Keywords:
acoustic and elastic wave propagation/scattering, metamaterials, dynamic material, deep learning, reinforcement learning, optimal control, generative AI, optimization, high-performance computing

Supervision Preference: ☑ faculty-led ☐ student-proposed

Potential Topics for Upcoming Projects or Theses:

- Design of broadband acoustic and elastic metamaterials using generative neural network, optimization, and reinforcement learning
- AI-facilitated knowledge discovery of complex wave dynamics for wave manipulation

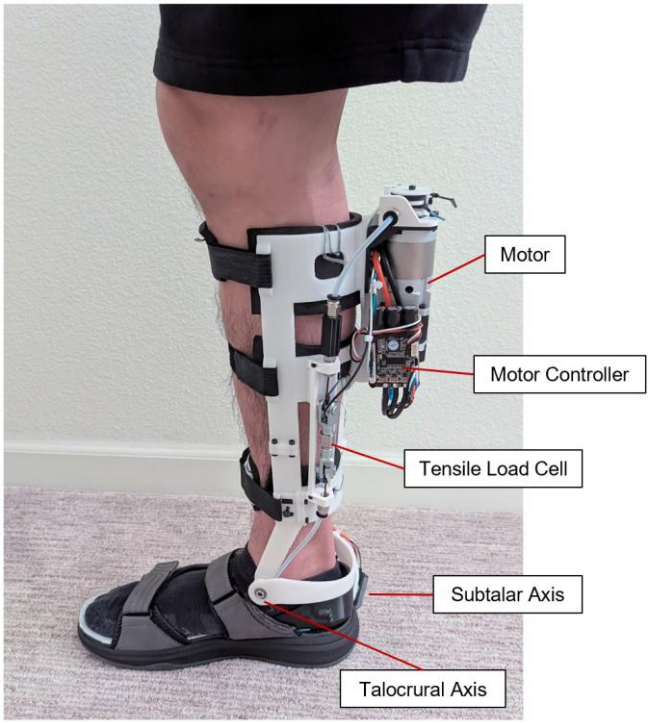
Examples of Recent Projects and Publications:

- Pentamode metamaterial design via wave simulation and machine learning (Cheng Qiu, December 2024)
- Data-driven control of acoustic waves using movable and flexible scatterers (Noam Smilovich, December 2024, Outstanding Thesis Award)
- Acoustic wave manipulation through sparse robotic actuation. Published https://doi.org/10.1109/ICRA55743.2025.11128588 and presented at the IRCA 2025 conference https://gladisor.github.io/waves/

Last updated 20260202

Raymond K. Yee

https://www.sjsu.edu/people/raymond.yee/
https://www.linkedin.com/in/raymond-k-yee-54b58a36/
raymond.yee@sjsu.edu



Prototype device of current research

Research Interests and Keywords:
mechanical design, biomechanics, assistive mobility device, healthcare engineering, control system

Supervision Preference: ☑ faculty-led ☐ student-proposed

Potential Topics for Upcoming Projects or Theses:

- Powered Ankle-Foot Orthosis

Objective: To improve the current prototype design and develop an assistive mobility device that improves gait stability in the aging population, with the goal of reducing fall risk.

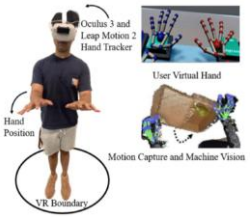
Area of Improvement: 1) Further development of the control system to improve device responsiveness and adaptability to user-specific gait patterns. 2) Prototype structure robustness

The powered ankle-foot orthosis enhances frontal plane ankle torque generation to target mediolateral stability during gait. The device aims to reduce fall-related injuries and promote greater independence in older adults.

Last updated 20260501

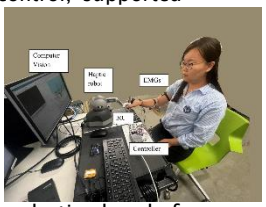
Lin Jiang



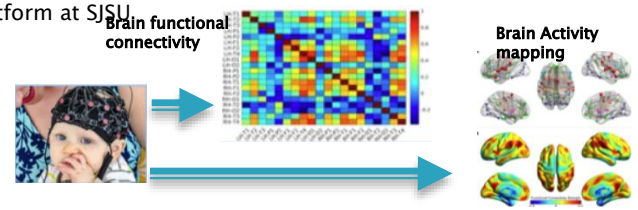



a) Franka Robot for learning, Service and companion robot, Humanoid Robot hand in the lab. VR/AR robot teleoperation and Imitation learning for human-in-the-loop robot control, supported by NSF CISE Award # 2431636





b) Robotic hand therapy solution: AMREO robotic hand for occupational therapy treatment at SVMC, and neurorehabilitation platform at SJSU



c) Neurodevelopment study for premature infants, collaborate with SCVMC

https://www.sjsu.edu/people/lin.jiang/
https://sites.google.com/sjsu.edu/biorob/
BioRobLab San José State University https://orcid.org/0000-0003-3085-9847
lin.jiang@sjsu.edu

Research Interests and Keywords:
Embodied/physical AI, human-robot interactions, multimodal perception (vision-proprioception-force); sensorimotor learning; sim-to-real transfer; robotic therapy; human machine interface

Supervision Preference: ☑ faculty-led ☑ student-proposed

Potential Topics for Upcoming Projects or Theses:

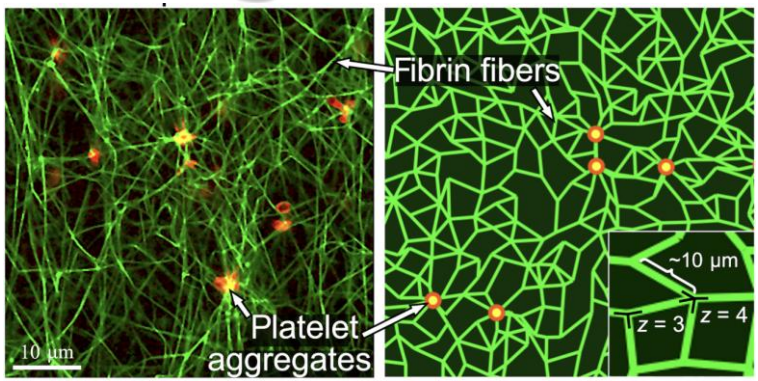
- Model-based reinforcement learning for sim-to-real transfer
- Latent-space VLA motion planning for efficient navigation in high dimensional robot
- Unified embodied policy for navigation and dexterous manipulation
- Neuroadaptive robotic hand therapy with fNIRS-derived intent and engagement metrics
- Evaluation of brain oxygenation and function in newborns with and without brain injury using bedside non-invasive monitoring (fNIRS)

Examples of Related Publications:

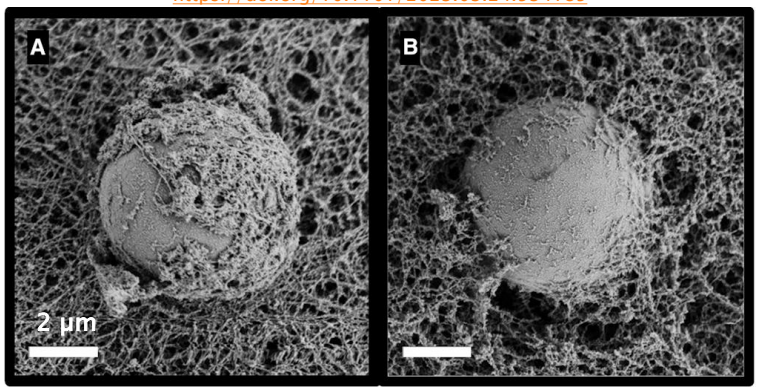
Reiner et al., IISE Trans. Occup. Ergon. Hum. Factors, 2026 [DOI:10.54941/ahfe1006382]
Allawi et al., ASME J. Med. Diagn., 2026 [https://doi.org/10.1115/1.4071027]
Benzo et al., ASME J. Med. Diagn., 2024 [https://doi.org/10.1115/1.4067182]
Li et al., Biomimetics, 2023 [https://doi.org/10.3390/biomimetics8020190]
Jiang et al., TBME, 2021.
Jiang et al., IEEE RAL, 2022.
Jiang et al., J. Biomech.Eng. 2020
Jiang et al., Exp. Fluids. 2020

Last updated
20260428

Sang-Joon



Platelets in fibrin network and model thereof, from https://doi.org/10.1101/2023.03.24.534185



Microbeads with differing "grip" in fibrin, from https://doi.org/10.1016/j.bpr.2025.100207

https://www.sjsu.edu/people/sang-joon.lee/
https://www.sjsu.edu/mems/
https://orcid.org/0000-0003-4522-0560
sang-joon.lee@sjsu.edu

Research Interests and Keywords:
microfluidics, tissue mechanics, hemodynamics, microfabrication, microelectromechanical systems (MEMS)

Supervision Preference: ☑ faculty-led ☐ student-proposed

Potential Topics for Upcoming Theses:

- Magnetic bead microrheology for probing localized mechanics in active biopolymer networks
- Microfluidic interrogation of red blood cell deformability (part of NIH 1R15HL177762-01)
- Process engineering and nanomechanical characterization of thin-film electrolytes for solid-state lithium batteries

Examples of Recent MSME Theses:

- Effects of microgravity on the dynamic response of a closed-loop perfusion system (A. Schweizer, Fall 2025)
- Multiphysics simulation of polymer-ceramic composite electrolytes under compression (M. Suski, Spring 2026)

Last updated 20260128

Mojtaba

https://scholar.google.com/citations?user=uoQP2HwAAAAJ
https://sites.google.com/sjsu.edu/armslab
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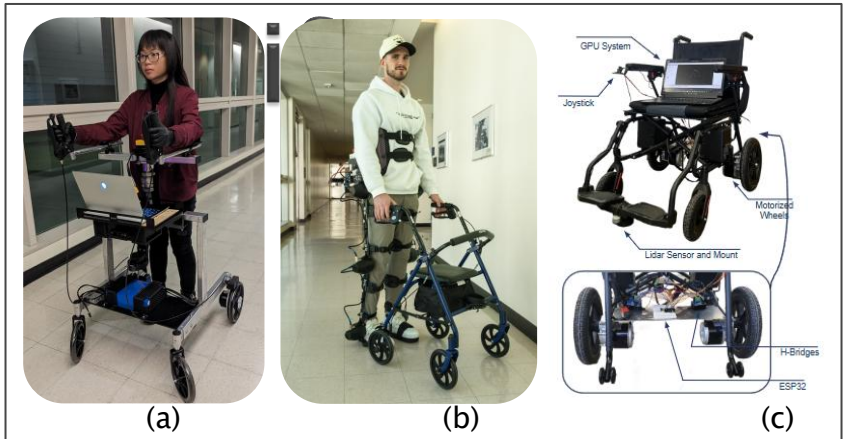

(a) (b) (c)

(d)

(a) Smart walker, (b) lower limb exoskeleton (Exo-H3), (c) autonomous wheelchair, and (d) hand exoskeleton, for assisting people with disabilities

Research Interests and Keywords:
medical and assistive robotics, human-robot interaction, biomedical engineering, mechatronic systems, intelligent control, machine learning

Supervision Preference: ☑ faculty-led ☐ student-proposed

Potential Topics for Upcoming Projects or Theses:

- Control and AI for a smart robotic walker, for people with dementia (funded by CSU grant)
- Intelligent control of lower-limb exoskeleton with machine learning tools for personalized and stable walking (funded by NSF grant)
- Mechatronics, control, and AI for a sensorized and motorized wheelchair with obstacle avoidance
- Bilateral control of a hand exoskeleton with position and force feedback for remote rehabilitation

Last updated
20260128

Amir Armani

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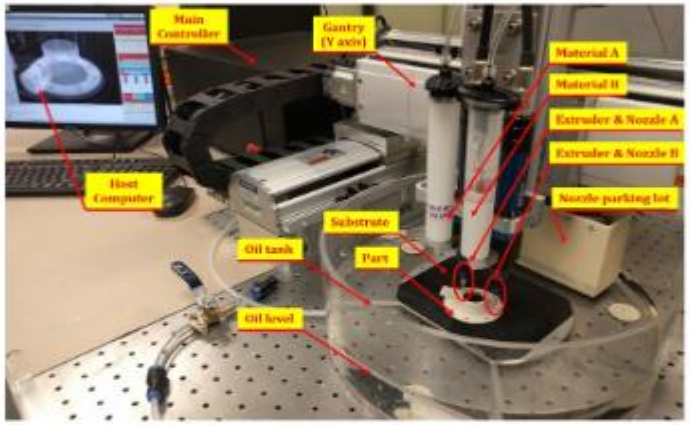

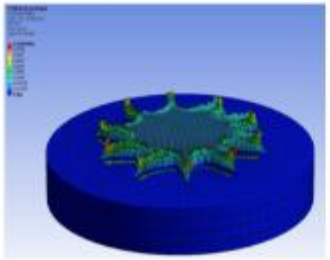

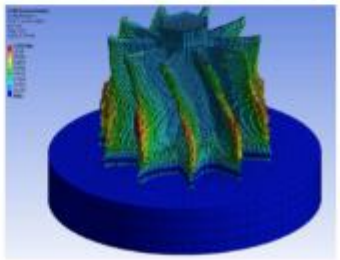

Research Interests and Keywords:
additive manufacturing, design optimization, structural ceramics, and functionally graded materials

Supervision Preference: ☑ faculty-led ☑ student-proposed

Potential Topics for Upcoming Projects or Theses:

- Finite element simulation of superalloy 3D printing
- Additive manufacturing and mechanical characterization of advanced ceramics
- Tool-path planning for extrusion-based 3D printing

Examples of Projects or Theses in Progress or Completed:

- Improving the quality of additively manufactured parts using machine learning algorithms
- Optimal design of functionally graded materials for 3D printing

Last updated 20250131

Lin Jiang


https://yanbo.ai/


https://www.smsit.ai/

a) Robotic project hardware: Service and companion robot, from left to right: Lumo, Nyro, and Jackie

b) Robotic hand therapy solution: AMREO robotic hand for occupational therapy treatment at SVMC, and neurorehabilitation platform at SJSU

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Research Interests and Keywords:
Embodied/physical AI, human-robot interactions, multimodal perception (vision–proprioception–force); sensorimotor learning; sim-to-real transfer; robotic therapy; human machine interface

Supervision Preference: ☑ faculty-led ☑ student-proposed

Potential Topics for Upcoming Projects or Theses:

- Model-based reinforcement learning robotic system identification for sim-to-real transfer
- Latent-space motion planning for efficient navigation in high dimensional robot
- Unified embodied policy for navigation and dexterous manipulation
- Neuroadaptive robotic hand therapy with fNIRS-derived intent and engagement metrics

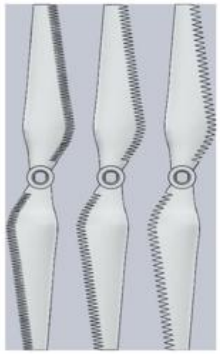
Examples of Related Publications:

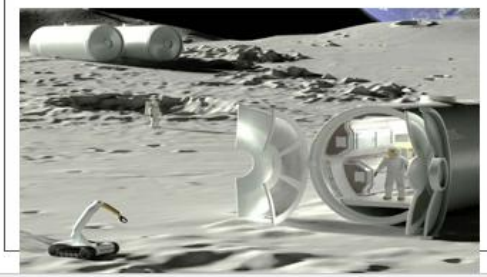
- Reiner et al., IISE Trans. Occup. Ergon. Hum. Factors, 2026 [submitted]
- Allawi et al., ASME J. Med. Diagn., 2026 [accepted]
- Benzo et al., ASME J. Med. Diagn., 2024 [publication]
- Li et al., Biomimetics, 2023 [publication]

Last updated 20260128

Fred Barez



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https://www.sjsu.edu/mylabwebsite/
https://orcid.org/0009-0005-9012-8861
fred.barez@sjsu.edu

Research Interests and Keywords:
Hybrid and Electric Vehicles, Autonomous Driving, Electronics Packaging, Shock and Vibration, Thermal Management, Acoustic Noise Reduction, EMI Prevention in Electronic Products, Smart and Energy Efficient Facilities,Aviation and Space Exploration, Lunar Habitations and Rovers.

Potential Topics for Upcoming Projects or Theses:

- Drone Rotor Noise Reduction using Serration
- Thermal Interface Materials, Heat Pipes, Liquid IC Cooling
- Evaluation of Autonomous Driving Sensors
- AR/VR and Digital Twins in Manufacturing
- EV Motors and Battery Technology Development

Examples of Projects or Theses in Progress or Completed:

- Development of Flying Car Concepts
- Study of Crashworthiness on Autonomous Shuttles
- Analysis of ADAS features in Improving Safety
- Design of a Mars Rover
- Manufacturing in Orbit and on Lunar Surfaces

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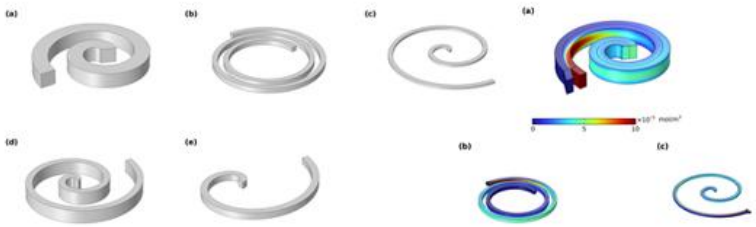

Figure 1. (Left) Surrogate-model-optimized microchannel designs. The global optimum (a) represents the best configuration within the design space, while designs (b)-(e) were generated under additional constraints on the design variables. (Right) Species concentration analysis of the generated designs. All prototypes successfully mix two fluids before the mixture reaches the microchannel outlet.

Figure 2. Arm support design: fully 3D-printed assembly featuring a ball-and-socket joint (upper left); mesh models of the ball joint and socket joint (lower left); and force testing of the printed component (right).

Research Interests and Keywords:
AI-supported design solution exploration and optimization, human-centered design, medical device design, design theory

Supervision Preference: ☑ faculty-led ☑ student-proposed

Potential Topics for Upcoming Projects or Theses:

- Intelligent design exploration and optimization for microfluidic devices in point-of-care applications
- AI-driven arm support design and manufacturing for upper-limb exoskeletons in pediatric rehabilitation
- Autonomous experimentation and process-parameter exploration using machine learning
- LLM-supported agentic workflows for engineering design and decision-making

Example of Related Publications:

- H. Ji, et al, IEEE Access, 2026 [publication]
- J. Ly, et al, CIRP Conf. Manuf. Syst., 2025.

Last updated 20260128