

# Larry S. McCannical

Playa Del Rey, CA 90293 • [mccannical@lion.lmu.edu](mailto:mccannical@lion.lmu.edu) • (213) 555-7431  
<https://www.linkedin.com/in/LarrySMcCannical/>

## EDUCATION

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**Loyola Marymount University** **Los Angeles, CA**  
*Master of Science Candidate, Mechanical Engineering* May 2024

**University of Southern California** **Los Angeles, CA**  
*Bachelor of Science, Mechanical Engineering* May 2020

## RESEARCH EXPERIENCE

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**Loyola Marymount University** **Los Angeles, CA**  
*Graduate Researcher/Undergraduate Supervisor* 2019  
*Graduate Researcher for: Professor Sanchez*

- Lead two titanium research projects for Boeing Aerospace and Alcoa Fasteners
- Evaluated mechanical properties of titanium samples using a Rockwell hardness tester and Instron
- Performed microstructural and texture analysis using SEM and X-Ray diffraction
- Machined and fabricated Titanium tensile test samples using ASTM standards
- Conducted lab meetings, project overviews, allocated hours, material purchasing, resource allocation and lead contact for projects
- Provided oversight of undergraduate projects
- Liaison between student and faculty, resource allocation, and project overview

**Loyola Marymount University, Capstone Design** **Los Angeles, CA**  
*Research Assistant for: Dr. Sellers* 2019

- Designed, fabricated and tested non-GPS based solar tracker for XYZ Solar Farm
- Presented project to Capstone submission committee for final review

**California Advanced Solar Technologies** **Los Angeles, CA**  
*California Mining and Mineral Museum* 2018  
*Research Assistant for: Professor Goldberg*

- Assisted in the development of a control systems for fiber optic mineral lighting
- Conducted research of light wave impedance inside fiber optic cables
- Assisted in the instrumentation of a solar powered refrigeration unit

**Loyola Marymount University** **Los Angeles, CA**  
*Research Assistant for: Professor Medina* 2018

- Developed and implemented program to model and obtain temperatures of an object undergoing unsteady conduction
- Utilized finite difference method as well as C++, Designed program testing protocols for assessment of data output of the program

## TEACHING EXPERIENCE

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**Teaching Assistant: Fracture Mechanics/Turbomachinery** **Los Angeles, CA**  
**Loyola Marymount University** 2017

*Teaching Assistant for: Professor Teller*

- Aided in the development and grading of in-class lab assignments and homework
- Provided one-on-one assistance with lab content as well as machinery technique
- Co-facilitated class lectures and activities for mid-level undergraduate class consisting of 32 students

## INDUSTRY EXPERIENCE

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### City Systems

San Diego, CA

*Systems Engineer/Project Manager*

2017

*Supervised by: Supervisor Teranaka/Supervisor Gonzales*

- Re-designed and manufactured enclosure, vision camera brackets, rejection gate and other custom parts utilizing 3D CAD and National Instruments software to create an automated vision inspection system
- Executed system, mechanical, and software design as well as automated system testing
- Conducted client meetings, design reviews and prepared status reports outlining project finances, engineering change orders, timeline and milestones
- Prepared project documentations of functional design specifications, operator's manuals, part drawings, bill of materials, maintenance manuals and writing schematics
- Conducted functional demonstrations, factory and site acceptance test; Fabricated, assembled, wired and tested project prototypes and mechanical systems for manufacturing lines, bioreactors, and vision inspection systems
- Aided in development and instrumentation of 3D vision lab

## TECHNICAL SKILLS

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Rockwell hardness tester, Instron, SEM, X-ray diffraction, C++, 3D CAD, National Instruments Software, 3D Vision Lab, MATLAB, Microsoft Office

## PRESENTATIONS

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"Light Wave Impedance Inside Fiber Optic Cables" L. Lion Fourth National Conference of Fiber Optics in Pasadena, CA October 2010.

## PUBLICATIONS

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"Light Wave Impedance Inside Fiber Optic Cables" A. BC and L. Lion, Journal of American Fiber Optics, 2010, 5, 119, 1047.

## PROFESSIONAL AFFILIATIONS

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Society of Hispanic Professional Engineers (SHPE)	2016 – Present
American Society of Mechanical Engineers (ASME)	2016 – Present
Graduate Students at Loyola Marymount University (GSLMU), Academic Chair	2019 – Present
Society of Women Engineers (SWE)	2017

## LANGUAGES

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English and Spanish