MICHAEL SHARA

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Los Angeles, California

SUMMARY

Undergraduate Electrical Engineering student and researcher interested in developing medical devices and treatments that provide innovative surgical, therapeutic, and diagnostic techniques. Eager to advance patient care through collaborative research and hands-on clinical experience. Actively seeking opportunities to learn, contribute, and build skills at the intersection of engineering and medicine, with a strong focus on gaining clinical experience to support my goal of applying to medical school.

EDUCATION

University of California, Los Angeles

B.S. Electrical Engineering GPA: 3.82 9/2023 - Present

Louis Levoy Engineering Scholarship Award

John Richard Leffler Engineering Scholarship Award

EXPERIENCE

Interconnected and Integrated Bioelectronics Lab (I2BL) **UCLA, California**

Research Assistant and Project Lead 6/2024 - Present

- Leading microfluidic medical device project to improve patient diagnostics, integrating electrochemical sensors and multiple biomarker assays for real-time data analysis.
- Managing a team of interns, setting goals, and guiding research strategies to achieve project milestones.
- Collaborating with PhDs to refine device performance and troubleshoot electrochemical sensing technologies & mechanical microfluidic techniques.
- Conducting interviews to select the next round of interns, assessing candidates' technical skills and alignment with lab objectives.

Shadowing & Sergical Observations **Community Orthopedic Medical Group**

Dr. Evan Guerrero - Orthopedic Surgery 12/2023 - Present

- Conducted literature reviews to understand biomechanical principles and studied preoperative imaging, intraoperative techniques, and postoperative management protocols.
- Observed and documented a variety of orthopedic surgeries, including:
  - Triangular Fibrocartilage Complex (TFCC) Repair
  - Shoulder Biceps Tenodesis
  - Rotator Cuff Repair
  - Distal Radius Fracture ORIF
  - Dorsal Wrist Ganglion Excision
  - Trigger Finger Release
  - Cubital Tunnel Release
  - Clavicle Fracture ORIF
  - Lateral Malleolus Fracture ORIF
  - Hand Hardware Removal
- Enhanced clinical knowledge through direct interaction with surgical teams, discussing case-specific considerations and patient outcomes.

Crusade Sports Medicine, Nonprofit Organization **UCLA, California**

Founder & Project/Research Lead 6/2024 - Present

- Co-founded a nonprofit organization aimed at researching innovations in sports medicine.
- Developing and publishing articles through our Crusade Journal of Sports Medicine, focusing on meta analyses and clinical surveys to educate student-athletes on cutting-edge practices in sports medicine and performance.
- Building a collaborative network of student-athletes, researchers, and prefessional mentours dedicated to our resilient "Crusade-360" values

PAST EXPERIENCE

Exo-Space, Inc. (Aquired by Sidus Space) **Pasadena, California**

Engineering and Business Development Intern 6/2021 - 9/2021 and 9/2022 - 12/2022

- Worked with founders to develop commercial orbital satellite cube
- Researched machine vision datasets for object detection models
- Designed lower cost printed circuit board with power & communication adapter
- Joined discussions on patents & crowdfunding new business
- Created business dev. overview and vertical to pitch to potential new clients

Audio Effects & Sound Engineering **North Catholic High School, Pennsylvania**

STEM Lab Research 9/2020 to 6/2021

- Researched to study modifications of operational amplifiers, resisters, capacitors, switches, and frequency filters in guitar pedals to manipulate audio signal sound effects.
- Learned to read schematics, build / solder circuit boards, and assemble pedal enclosure
- Experimented using oscilloscope for lab tests & reports
- Studied LTspice software to program & simulate electronic components/circuit designs before building final product.
- Used virtual oscilloscope probes in LTSpice software to analyze, debug, and optimize the electronic component values and circuit layout for generating desired sound effect signals.
- Mentored by engineer/founder of The Tone Geek

SKILLS

- Hardware Circuits Assembly
- LTspice Circuits Simulation
- AutoCAD Design
- Laser & 3D Printing
- C++
- Python
- MATLAB
- Arduino
- Fusion 360
- Design Spark
- COMSOL Multiphysics Simulation
- Microsoft EXCEL
- Reseach Project Cost Analysis
- Literature Review
- Pipetting
- ELISA

EXTRACURRICULAR ACTIVITIES & ACCOMPLISHMENTS

- Team Lebanon International Ice Hockey (Captain - Defensman)
- British Columbian Hockey League (Joe Tenant most dedicated Player Award - Defensman)
- Community Health Collective Volunteering (Child Development)
- Certified USA Hockey Coach