Scotty Highlander

Riverside, California | (123) 456-7890 | shighlander@ucr.edu | linkedin.com/shighlander/

Education

B.S. in Bioengineering University of California –Riverside (UCR) June 2025

- **GPA:** 3.2/4.0
- **Relevant Coursework**: Biotechnology and Molecular Engineering, Biomechanics, Bio-instrumentation
- **Awards**: Dean's Honor List (2023, 2024), Bourns Foundation Engineering Scholarship

Technical Skills

Software & Programming: MATLAB, SolidWorks, AutoCAD, COMSOL, Python, C++, Microsoft Office (Excel, Word, PowerPoint), Google Suite
Analytical Instruments: Microscopy (Light, Fluorescence), IR Spectrometer, UV-Vis Spectrometer, Liquid Chromatography, Gas Chromatography
Laboratory Techniques: PCR (Polymerase Chain Reaction), Gel Electrophoresis, Cell Culture, Protein Purification, Titration, Rotary Evaporation, Filtration, Crystallization, Centrifugation, Extraction, Spectrometry, Chromatography
Bioengineering Skills: Medical Device, 3D Prototyping and Design, Bioinformatics (Sequence Analysis, Genomic Data Analysis, Molecular Modeling), Tissue Mechanics, Bioinstrumentation, Biomaterial Synthesis and Characterization

Research Experience

Undergraduate Research Assistant Biomaterials Lab, UCR June 2023-June 2024

- Investigated surface treatment methods of Magnesium alloys for orthopedic applications
- Conducted chemical etching tests on alloy surfaces, optimizing XYZ performance by 5%
- Collaborated with 3 graduate research assistants on various biomedical R&D projects
- Utilized XYZ equipment to perform exterior membrane modifications on Titanium implants, enhancing the antibacterial and osteogenic properties.

Laboratory Experience

Laboratory Courses UCR September 2022-June 2023

- Conducted experiments using **UV-Vis, IR and GC** and analyzed spectrum data
- Composed technical reports, including experimental procedures, data analysis, results and conclusion
- Followed experiment standard operating procedures (SOPs) and complied with laboratory safety protocols for handling hazardous materials, gaining hands-on lab experience in General Chemistry, Organic Chemistry, Biochemistry Lab

Projects

Upper Body Baby Exoskeleton Design Senior Design Project, UCR April 2025-Present

- Collaborate with a team to create an upper body support mechanism for infants with limited mobility.
- Utilize **SolidWorks** for 3D modeling and assemblies, and **MATLAB** for computational analysis to generate and evaluate this **biomechanical design**.
- Compile an engineering design report documenting design process, data analysis, and result evaluation.
- Showcase the project through a poster presentation at 2025 Senior Design Symposium.

DNA to Amino Acid Sequence Modeling Biochemistry Course, UCR April 2024-June 2024

- Collaborated with 2 team members to develop DNA to amino acid **sequence analysis** model
- Utilized **MATLAB** to model thrombin formation, simulate coagulation cascade and translation of DNA sequences into amino acid sequences
- Calculated molecular properties including molecular weight and isoelectric point for characterization

Leadership Experience

Resident Advisor Housing Services, UC Riverside September 2023-Present

- Foster personal development within a diverse community of 550 residents, ensuring adherence to community standards, and addressing security concerns during crises.
- Serve as the Leadership Advisor to the students and participate in training programs on inclusive diversity practices

Professional Affiliations

Member, BioMedical Engineering Society August 2023-Present