Scotty Highlander

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

Education

B.S. in Bioengineering **GPA: 3.2/4.0** University of California-Riverside June 2026
Relevant Coursework: Biotechnology & 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, Google Suite
Laboratory Techniques: Microscopy, PCR (Polymerase Chain Reaction), Gel Electrophoresis, Cell Culture, Protein Purification, Rotary Evaporation, Crystallization, Centrifugation, Extraction, IR Spectrometer, UV-Vis Spectrometer
Bioengineering Skills: 3D Prototyping and Design, 3D Printing, Bioinformatics (DNA Sequence Analysis, Genomic Data Analysis, Molecular Modeling), Tissue Mechanics, Bioinstrumentation, Biomaterial Synthesis and Characterization

Research Experience

Undergraduate Research Assistant Biomaterials Lab, UCR September 2025-Present
- Investigate surface treatment methods of magnesium alloys for orthopedic applications
- Conduct chemical etching tests on alloy surfaces, optimizing coating performance by 5%
- Collaborate with 3 graduate research assistants on 2 biomedical device R&D projects
- Utilize XYZ to perform titanium implant surface modifications to improve antibacterial and osteogenic properties.

Intern Experience

Medical Technician Intern Riverside Community Hospital, Riverside, CA June 2025-August 2025
- Assisted in daily operation of the clinical laboratory compliance with HIPAA and OSHA safety protocols, supporting medical staff in specimen collection and result communication.
- Performed routine diagnostic tests (CBCs, urinalysis, biochemical assays) under supervision of certified technologists
- Calibrated, maintained, and troubleshot basic ER equipment (vital sign monitors, infusion pumps, centrifuges) to ensure accurate and reliable operation.

Projects

Upper Body Baby Exoskeleton Design Senior Design Project, UCR January 2026-Present
- Collaborate with a team to design and assemble a pediatric exoskeleton using **CAD** with finite element analysis **(FEA)**
- Utilize **SolidWorks** to build a 3D prototyping and optimize the structural integrity of the exoskeleton frame
- Assembled and constructed the prototyping components using 3D printing and applied finite element analysis (FEA) to test load distribution and joint mechanics.
- Conducted biomechanical simulations using **MATLAB** to analyze range of motion, torque, and stability of the exoskeleton for infant mobility support
- Showcased project outcomes through a technical poster presentation at the UCR Senior Design Symposium.

DNA to Amino Acid Sequence Modeling Biochemistry Course, UCR April 2025-June 2025
- 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

Development Chair Biomedical Engineering Society, UCR September 2024-Present
- Organized professional development events and technical workshops for 40+ bioengineering students, connecting them with industry speakers and alumni.
- Coordinated outreach activities to promote biomedical engineering activities to the local high school students