

ALISHA JAIN

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SUMMARY

Early-career engineering professional with hands-on experience in statistical analysis, experimental design and Python scripting to support clinical data visualization and compliance. Proficient in COMSOL Multiphysics, MATLAB and biomechanics with a strong foundation in physiology and biomaterials. Collaborative problem-solver skilled at driving proof-of-concept evaluations and ensuring adherence to clinical documentation protocols.

EDUCATION

University of California, Riverside <i>Bachelor of Science, Bioengineering</i> (GPA: 3.2 / 4.0)	Jun 2026
• Coursework: Biomechanics of the Human Body, Quantitative Biochemistry (MATLAB), Circuits & Electronics, Biotechnology & Molecular Engineering, Biomaterials, Probability & Statistics, Circulation & Physiology, Psychology, Health Equity	

WORK EXPERIENCE

Sunrise ABA Behavior Technician (Seasonal)	Jun 2023 - 2024
• Maintained high-accuracy behavioral data logs for pediatric patients and performed statistical analysis to support treatment adjustments while ensuring 100% compliance with HIPAA, data integrity, and regulated environment documentation controls.	

- Monitored quantitative progress metrics and developed Python scripts with GitHub version control to automate data visualization and produce technical reports for clinical supervisors.

TECHNICAL PROJECTS

Cerebral Aneurysm Hemodynamics & Biotransport Modeling (COMSOL Multiphysics)	Jan 2026 - Present
• Developing computational models of blood flow within a cerebral aneurysm to evaluate velocity fields, pressure distributions, and wall shear stress	

- Applying fluid mechanics and biotransport principles using physiologically relevant boundary conditions to assess hemodynamic factors associated with aneurysm progression
- Conducting parametric analyses to examine the influence of flow conditions and geometry on system behavior

Spinal Loading & Musculoskeletal Analysis	Sep 2024 - Present
• Modeled spinal and shoulder loading mechanics under repetitive and asymmetric force conditions using literature-derived material properties	

- Analyzed stress-strain relationships and load transfer to evaluate injury risk and mechanical response
- Collaborated within a multidisciplinary team to ensure model validity and physiological relevance

Dynamic Genome Research Program	Sep 2023 - Jun 2024
• Participated in genomics-focused research, integrating experimental workflows with computational and analytical reasoning	

- Analyzed biological data while accounting for variability and experimental constraints
- Gained experience in interdisciplinary research spanning molecular biology and quantitative analysis

Engineering Design Challenges	Sep 2025 - Present
• Executed engineering design projects involving problem definition, constraint identification, and iterative solution development	

- Applied systematic design methodologies to evaluate trade-offs and optimize performance
- Documented and presented technical findings to diverse audiences
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TECHNICAL SKILLS

• Software & Computational Tools: COMSOL Multiphysics, MATLAB, Python, GitHub, Basic Programming, Microsoft Office, Computational Modeling, FEA (Finite Element Analysis), Curve Fitting, Simulation-Based Analysis, Data Visualization	
• Engineering & Experimental Design: Mechanical Measurement, Mechanical Engineering, Biomechanics, Stress-Strain Analysis, Statistical Analysis, Data Analysis, Experimental Design, Data Integrity	
• Life Sciences & Regulatory: Physiology, Biomaterials, Circulatory Systems, Biological Systems, Biomedical Engineering-, bioengineering, Medical Devices, Design Controls, Regulated Environment, HIPPA	
• Professional Skills: Technical Reporting, Communicative, Problem Solving	

LANGUAGES

• English (Fluent)
• Hindi (Fluent)
• Urdu (Fluent)
• Punjabi (Conversational)