

# 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

Jun 2026

*Bachelor of Science, Bioengineering* (GPA: 3.2 / 4.0)

- **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-, bioengineerings, Medical Devices, Design Controls, Regulated Environment, HIPPA
- **Professional Skills:** Technical Reporting, Communicative, Problem Solving

## LANGUAGES

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