

GENOME DATA ANALYTICS AT ZURA



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Genome Data Challenges

- Diversity of Data Sources
- Data Volume & Complexity
- Variability in Report Formats
- Data Quality & Standardization
- Data Integrity
- Incomplete Data 
- Unstructured Data
- Security & Compliance

Areas of Contribution



- Data Extraction & Transformation
- Report Ingestion, Validation & Processing
- Analytics & Data as a Service

Genome Analytics Process

Data Collection

- DNA Sequencing Data
- Genetic Variation Data
- Test Reports & Clinical Data
- User Format

1

Data Extraction & Processing

- Custom Extraction Components
- ML Algorithms for
 - Handling Missing Data
 - Self-adaption in Data Input Formats
- Batch Processing
- External Data Integration
- Real-Time Processing
- Validation & Verification

2

Data Storage & Categorization

- Structured Database Schema
 - Genetic Test based Categorization
 - Hierarchical Categorization
- Scalable Storage Infrastructure
- Data Protection Regulations
- Encryption & Access Controls

3

Visualization & Analysis

- Variant Frequency Plots
- Pathway Analysis Diagrams
- Statistical Analysis
- Dynamic Filtering & Sorting
- Interactive Visualization Tools
- Live Data Feeds
- Data Export and Sharing
- Feedback Loops

4

Seamless Reporting

Trustworthy Information

Scalability and Efficiency

Actionable Insights

Informed Decision Making

Reliable Decision Support

Mitigation of Risk of Breach

Adherence to Compliance