

GenoCorr Platform Architecture

- Frontend
- Backend
- Data Storage
- External

Frontend Layer

Next.js 15.3.5 | React | TypeScript

Gene Search

GO Analysis

IVCCA

Visualization

Backend Layer

FastAPI 0.68.0 | Python

Gene Search

GO Enrichment

IVCCA

/api/gene/symbols

/api/gene/symbol/search

/api/ontology/analyze

/api/ontology/theme-chart

/api/ivcca/load-data

/api/ivcca/calculate-correlation

Core: GeneSearchAPI | GeneOntologyAPI | IVCCAAalyzer

Data Layer

MongoDB

Gene Expression Data

File Storage

Excel/CSV/TSV

External API

GProfiler

Libraries: pandas | NumPy | SciPy | scikit-learn | matplotlib