Geneius

Solving disease.
One prompt at a time.

Powered by 

Problem statement

26 million people suffer from **chronic disease** in the UK[1] alone

Most diseases have **genetic underpinnings** that are **poorly understood**

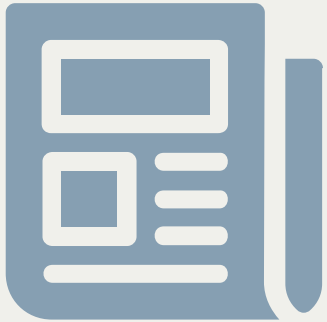
Another **3.5 million** suffer from a **rare disease**[2]

[1]Sanderson, J., & White, J. (2018, November 6). Making the Case for the Personalized Approach. NHS England.

[2]Caulfield, M. , & Javid, S. (2022, February 28). Millions of people with rare diseases to benefit from faster diagnosis and better access to treatment. UK Dept. Health and Social Care

Problem statement

Gene-disease evidence can be found in scientific papers, but **no robust** and **efficient way to access**



Manual search is prone to **confirmation bias**

Expert analysis and curation of literature is **cumbersome and time-consuming**

Solution

	Input	Context retrieval	Claude-powered retrieval	Output Example (Solution 2)
Solution 1	Disease name Gene name	Title Abstract DOI	Prompting Claude to provide **N pieces of evidence** for **gene-disease link**	**Input = "Colorectal Cancer"** ↓ **Output** **Genes:** [TP53, APC...] **Paper Title:** p53 mutations in colorectal cancer... **DOI:** 10.3748/wjg.v21.i1.84 **Explanation:** This paper suggests TP53 is linked to colorectal cancer because...
Solution 2	Disease name	Title Abstract DOI	Prompting Claude to provide **N genes linked with a specific disease,** backed by literature evidence	

Performance

Efficient search

Can process ~700 papers in ~8 minutes

Leverages Claude's context window

An 100k token window means more literature can be included in context, making search more exhaustive and effective

Context Specific

Returns information directly related to the query, considering molecular-level interactions

Impact

Identifying drug targets

Provides evidence for a target-led approach to drug discovery

Validate biological research

Offers a standardized approach to literature reviews, saving time whilst adding structure to the process

Extendable and personalizable

Can be extended to include compound or cell-type specific validation

Thank you

Thank you to Anthropic
for hosting this hackathon
and for giving us access to
Claude!

We hope to make
AI-powered drug discovery
part of all of our futures.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