

Agenda

- My Fave AI App
- Definitions
- History
- Mechanics
- State of the Art
- Ethics
- The Future



Photo by Domenico Loia on [Unsplash](#)

August 2016

Option 1 - Interactive Trivia Quiz Challenge Game

Inspired by [quizup](#) but a PWA rather than a native app and used as a way to illustrate backend design principles. We'll build this app in steps and highlight important lessons as they arise in the design process.

Requirements

- Usage flow
 - Visit site ([quizr.io](#))
 - Anonymous mode works out of the box
 - Ability to do quiz challenges with random other users but no user profile, no persistence of results, no leaderboard, no history
 - Establish a user profile
 - Challenge random or selected opponent to real time trivia challenge
 - Challenger selects subject, responder accepts or rejects (repeat until agreement)
 - Quiz conducted in real time using webRTC data (with optional video)
 - Results are persistent
 - Leaderboards maintained
 - Questions are accessed dynamically via network (caching is not particularly helpful because real time contents won't work while offline)
- Utilize an [open trivia question database](#)
- Implemented as a PWA
- Both a hosted service and an open source code example
- FE uses either react or Angular 2 (TBD)
- Use to illustrate state of the art back end capabilities

App Stages

1. FE - UI starts with anonymous mode only.
2. Add successive features by implementing an API (REST or gRPC). With each step, highlight options and considerations in choosing backend technology
 - a. sign in and user profile management

Definitions

- Artificial Intelligence
- Machine Learning
- Neural Network
- Deep Learning
- Generative AI

Photo by [Stefan](#) on [Unsplash](#)

History

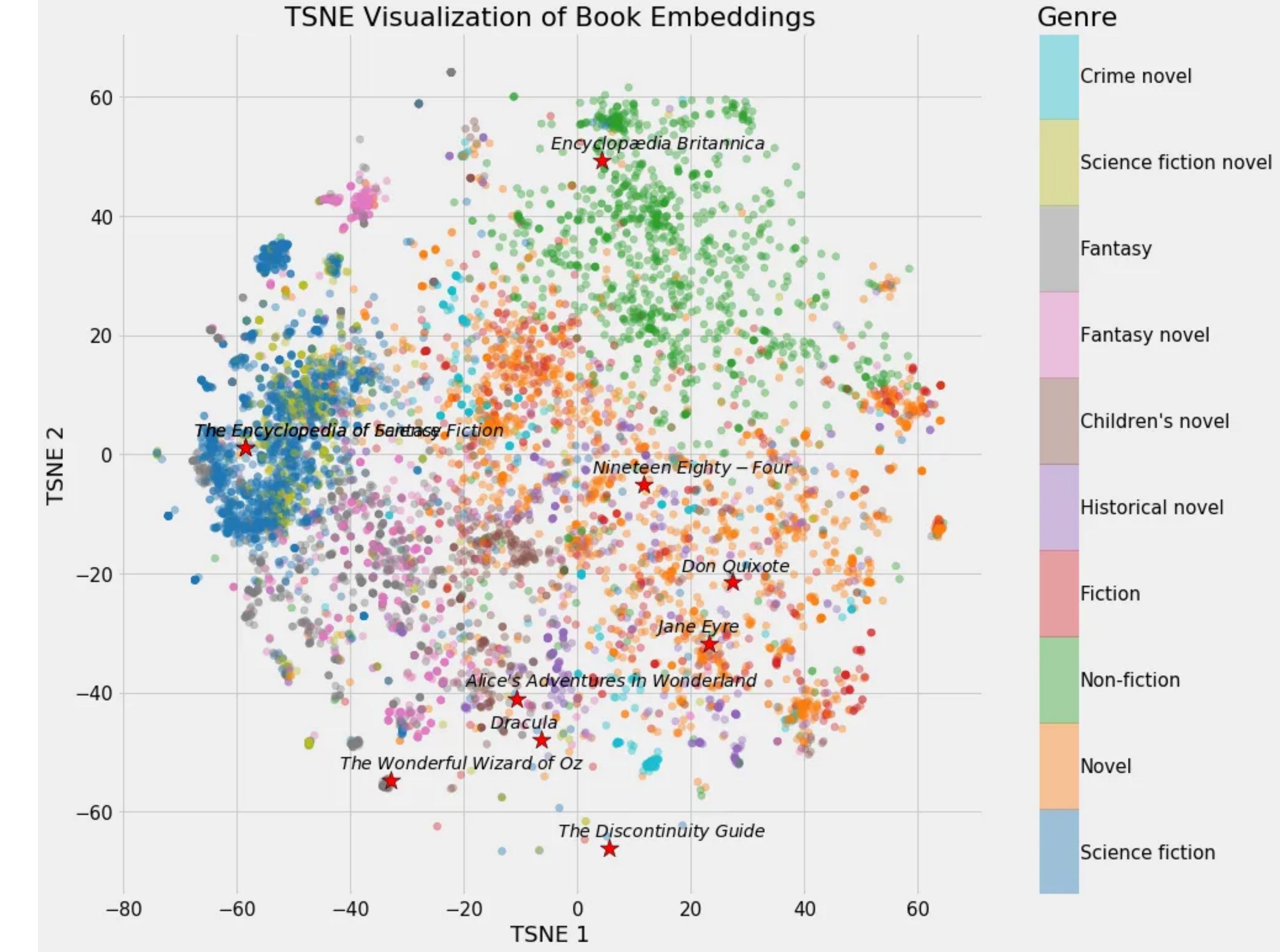
How did we get here?

- Founders
- Timeline

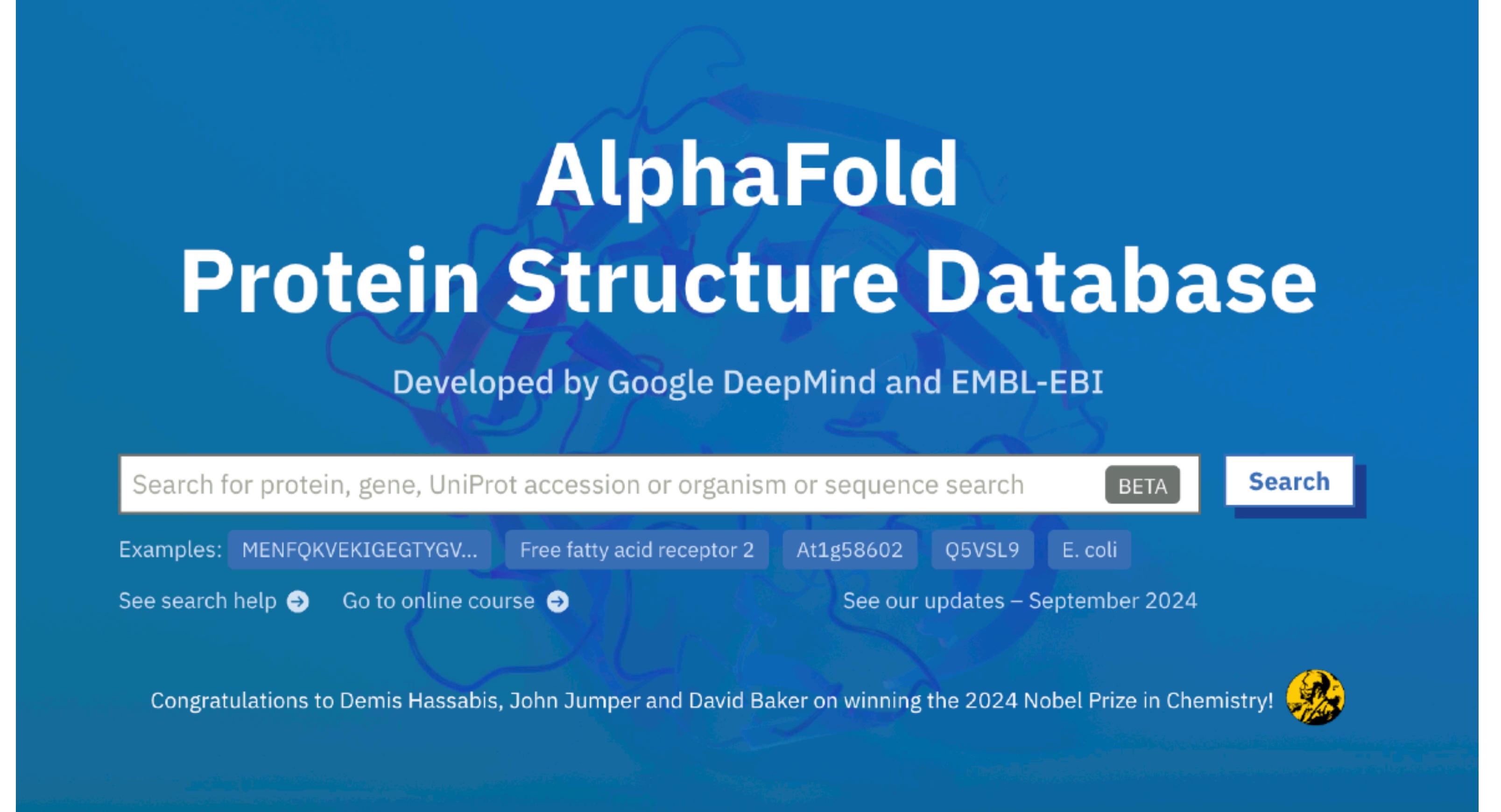


Mechanics

How does AI work?



State of the Art



The image shows the homepage of the AlphaFold Protein Structure Database. The background is a dark blue gradient with a faint, stylized protein structure model in light blue and purple. The title "AlphaFold Protein Structure Database" is prominently displayed in large white font. Below the title, it says "Developed by Google DeepMind and EMBL-EBI". A search bar at the top has the placeholder "Search for protein, gene, UniProt accession or organism or sequence search" and a "BETA" button next to it. To the right of the search bar is a "Search" button with a dark blue background and white text. Below the search bar, there are examples of search terms: "MENFQKVEKIGEGTYGV...", "Free fatty acid receptor 2", "At1g58602", "Q5VSL9", and "E. coli". There are also links for "See search help" and "Go to online course". On the right side, there is a link to "See our updates – September 2024". At the bottom left, a message congratulates Demis Hassabis, John Jumper, and David Baker on winning the 2024 Nobel Prize in Chemistry, accompanied by a small portrait of Demis Hassabis. The bottom right corner features the EMBL logo.

AlphaFold
Protein Structure Database

Developed by Google DeepMind and EMBL-EBI

Search for protein, gene, UniProt accession or organism or sequence search **BETA** **Search**

Examples: MENFQKVEKIGEGTYGV... Free fatty acid receptor 2 At1g58602 Q5VSL9 E. coli

See search help Go to online course See our updates – September 2024

Congratulations to Demis Hassabis, John Jumper and David Baker on winning the 2024 Nobel Prize in Chemistry! 

AlphaFold DB provides open access to over 200 million protein structure predictions to accelerate scientific research.

Ethics

Using AI Safely



The Future

Where is all this going?



Photo by [Mathilda Khoo](#) on [Unsplash](#)