



Chelle AI & UCLA DataRes Consulting

Our Team



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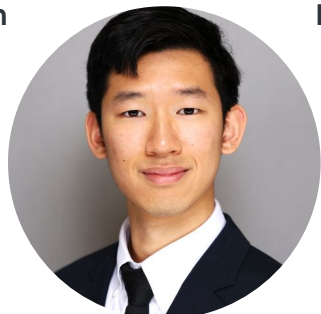
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1

Client Overview

Streamlining Onboarding and Training



Chelle revolutionizes the onboarding process, leveraging A.I. to get new employees up to speed faster with a dynamic mix of optimized onboarding and just-in-time information.



Chelle's Objectives

- **Reduce Time to Productivity:** On average, eight months for new hires.
- **Organize Knowledge:** Input documents, manuals, codebase, etc.
- **Manage Information:** Easily handle tribal knowledge.
- **Leverage AI:** Shorten new hire training, provides experienced team member support.
- **Training Objectives:** Define priorities for new hire curriculum.
- **Interactive Learning:** Progress verification and new material presentation.



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Project Scope & Objectives

DataRes Consulting Collaboration

Python Upskilling

- Empowering consultants with essential Python programming capabilities.
- NetworkX for comprehensive network analysis for data interpretation.

HTML Web Scraping

- Introduction to BeautifulSoup library for web scraping in Python.
- Understanding its capabilities for HTML and XML parsing.
- Exploring the structure of NextJS documents for web scraping.

Embeddings Using OpenAI

- Introduction to OpenAI API for natural language processing tasks.
- Exploring methods to utilize OpenAI API for creating embeddings.
- Demonstrating the integration of OpenAI embeddings with NetworkX to create knowledge graphs.



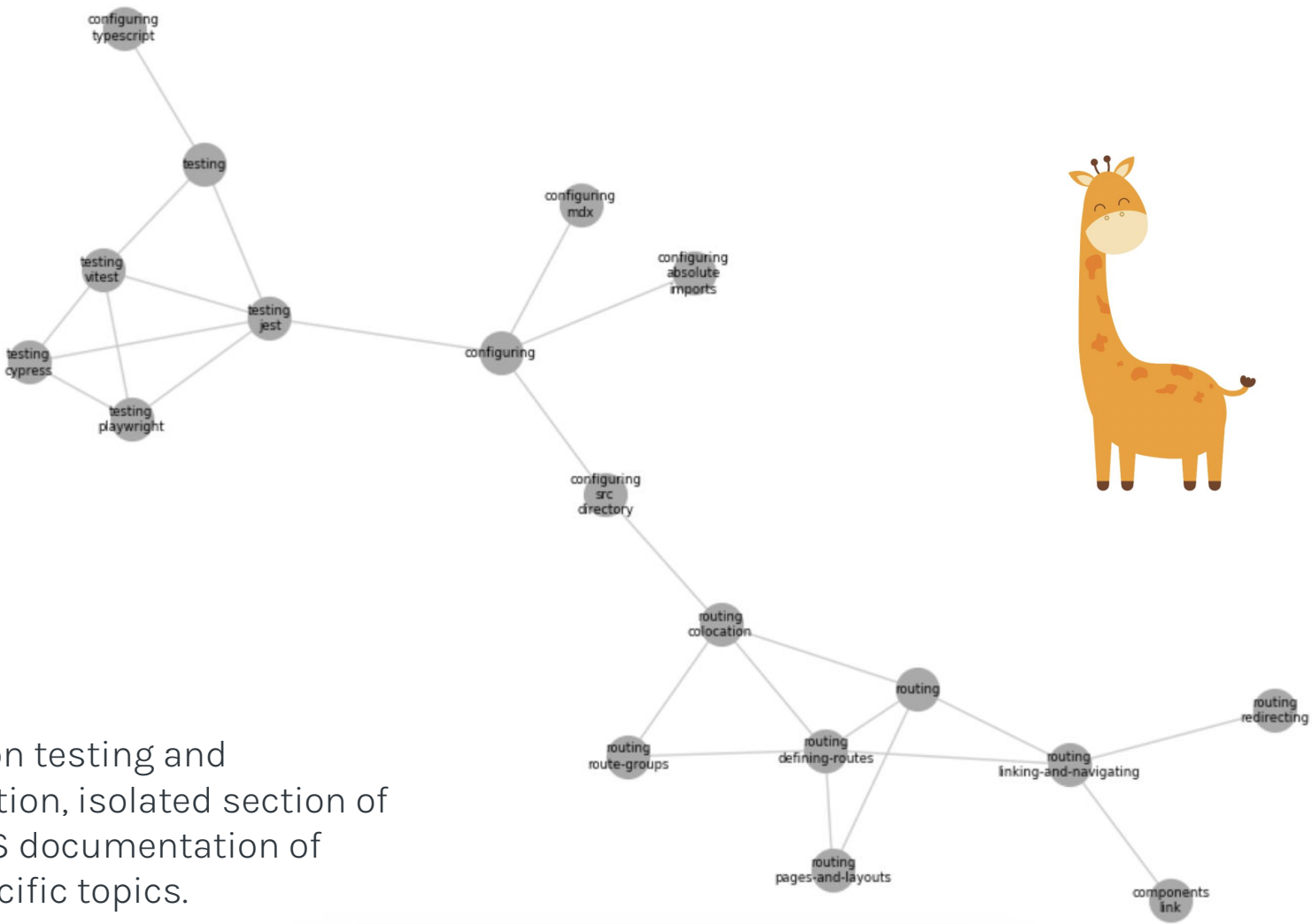
3

Key Findings

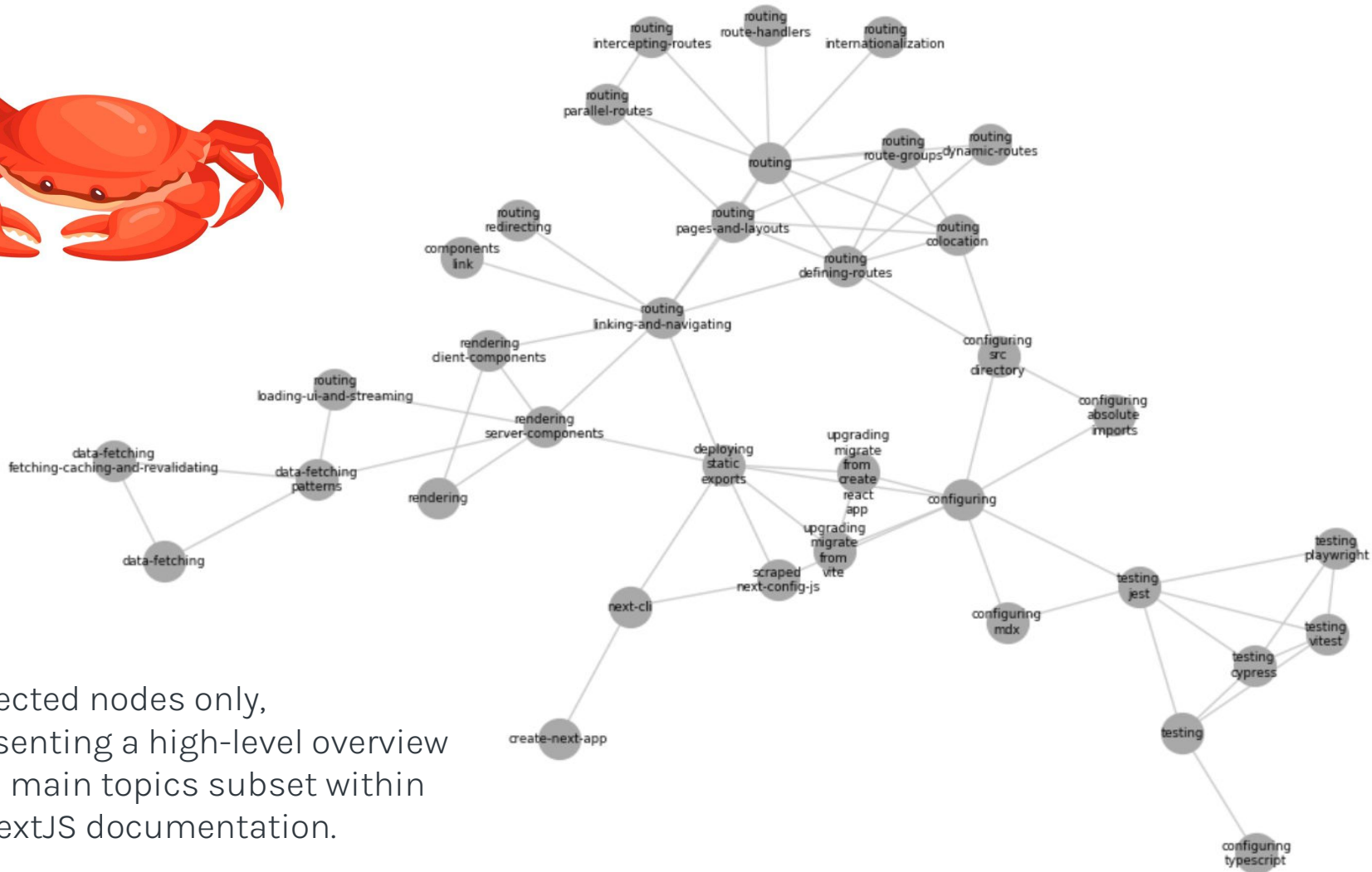
Exploring knowledge graphs

About Knowledge Graphs

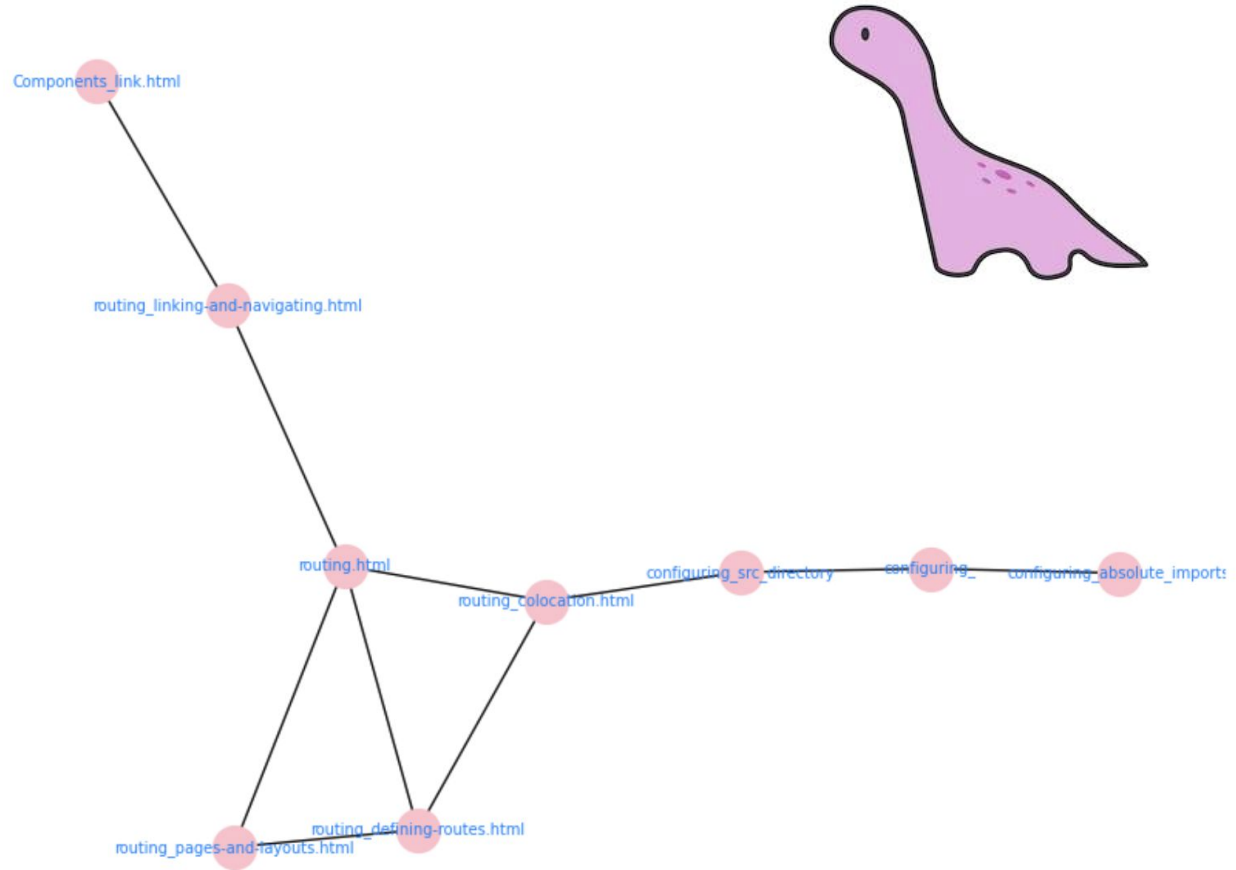
- Represents the **interconnected nature** of the Next.js documentation
 - Nodes: documentation topics
 - Edges: how these topics interlink, indicating flow and dependencies among features
- Guide through the extensive resources available in the Next.js documentation, **roadmap** to the information you need



Focused on testing and configuration, isolated section of the NextJS documentation of these specific topics.



Connected nodes only,
representing a high-level overview
of the main topics subset within
the NextJS documentation.



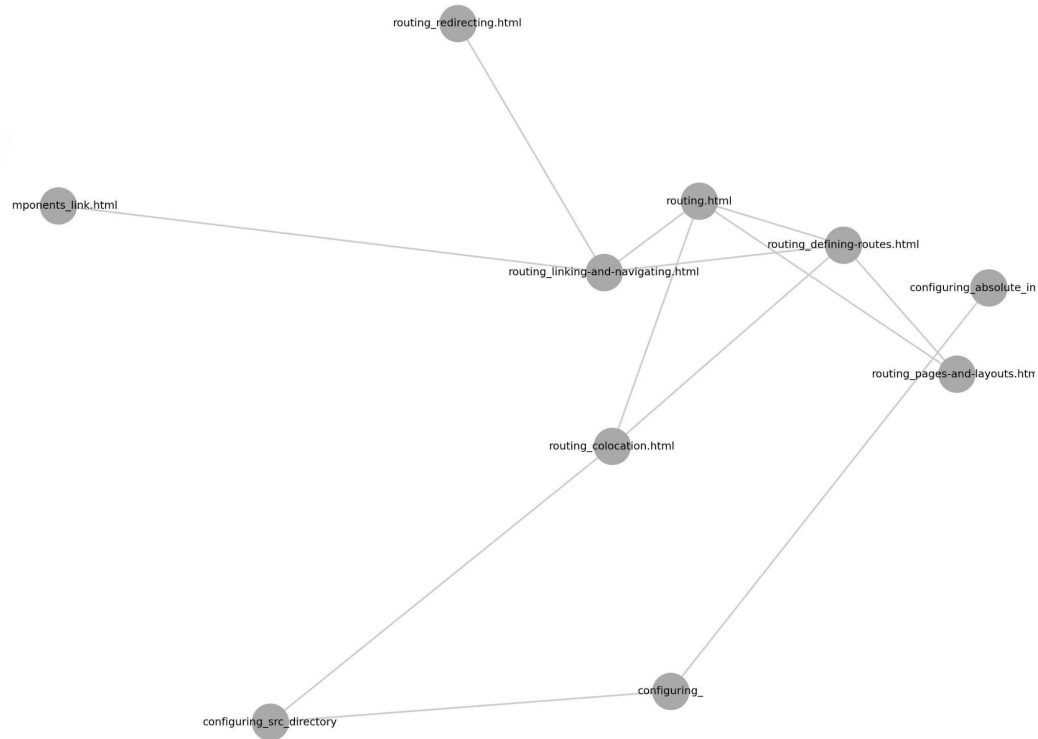
Threshold = 0.9

Knowledge graph using documents from NextJS, using cosine similarity.

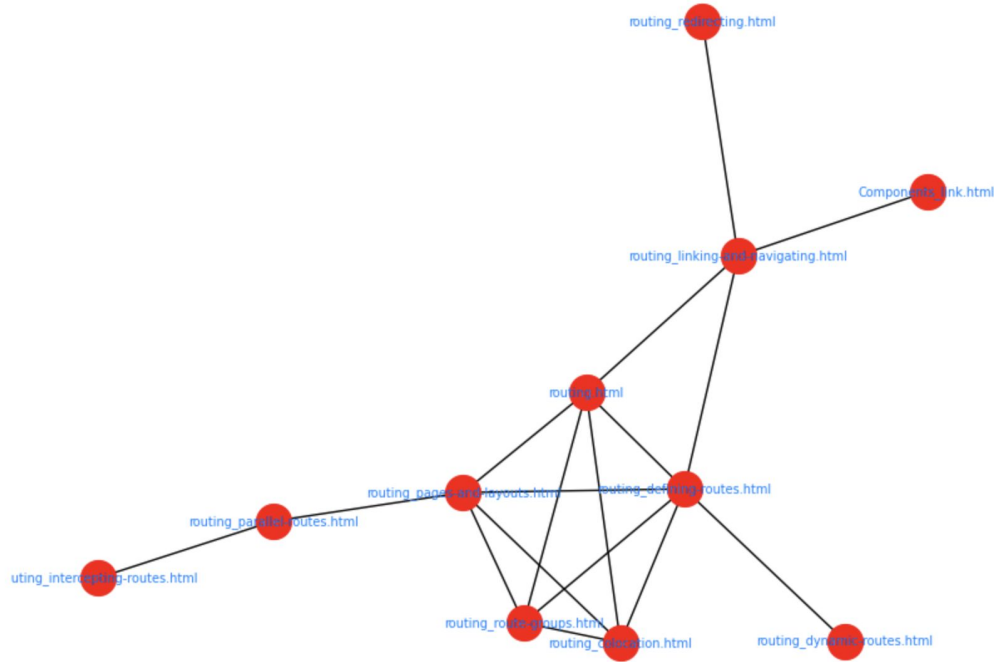
Kamada kawai layout used



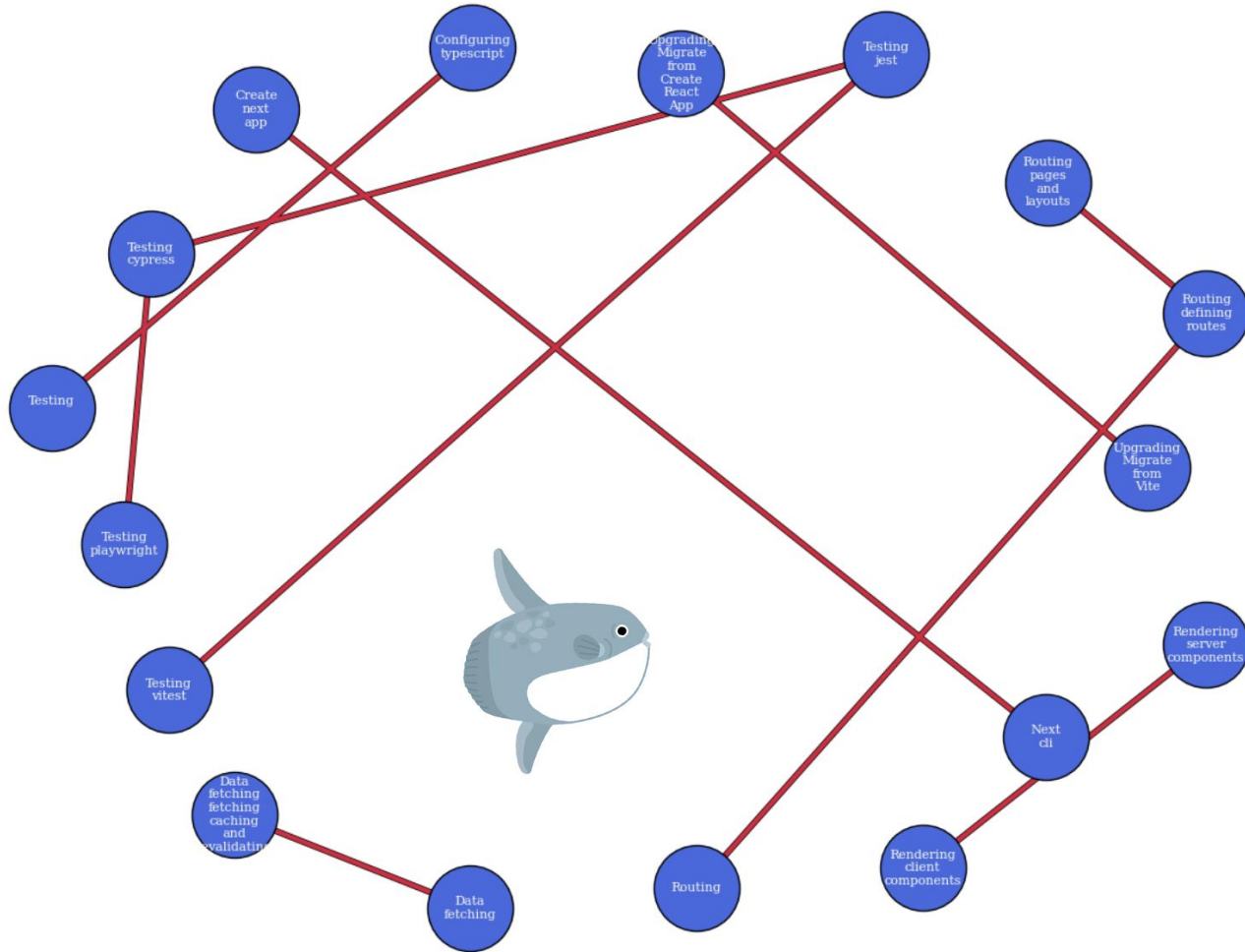
Knowledge graph built with the NextJS documentation. Threshold of 0.95, using `spring_layout()`



Knowledge Graph



Also Kamada Kawai Layout
Threshold = 0.885



Threshold: 0.92

Spring layout (k = 20,000)

Node size: 3,000

Removed nodes containing
“Optimizing,”
“Caching,” or “Styling”



4

Proposed Next Steps

Spring 2024

Spring 2024

- **1. Evaluate Python Embedding Techniques:**
 - Research various Python embedding methods, experiment to gauge effectiveness for project goals.
- **2. Explore Network Graph Tools:**
 - Investigate graph libraries including and beyond NetworkX, assess features for improved visualization.
- **3. Prototype Development:**
 - Develop prototypes integrating embeddings and hierarchies, test for functionality and effectiveness.

Thank You

The background features a large, light blue, wavy, rounded shape on the right side. This shape is filled with a pattern of thin, white, diagonal lines that create a sense of movement and depth. The overall aesthetic is clean and modern.