Danqi Chen

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About me:

Focused and quick-learning Software Engineer (Full Stack Developer) with extensive experience in all phases of the Software Development Life Cycle (SDLC). Adept at Requirement Analysis, Design, Implementation, and Maintenance. Practiced in Scrum and Agile methodologies.

Technologies:
Golang, Java, JavaScript, Cassandra, Angular, Node.js, React, Python, C++, MySQL, Git, Chrome Developer Tools.

Artifacts:

Deep Learning vs. Machine Learning Comparison Project

Description:

This project compares deep learning and machine learning using two real examples: Lifeifei's CNN-based image recognition system and a housing price prediction model. The image recognition system uses deep learning to analyze pictures and classify them accurately. The housing price model uses machine learning to predict home values based on factors like location and size. A challenge in this project was making sure both models were tested fairly, even though they used different types of data. To solve this, we used clear performance tests and looked at how each model made decisions. This project helps show when deep learning is needed and when regular machine learning is a better choice, based on the problem, data, and computing power available.

Reflection:
Customization for the Audience:

This artifact was tailored for both technical and non-technical audiences by providing clear explanations of complex AI concepts. For technical readers, detailed model performance comparisons and data preprocessing techniques were included. For non-technical stakeholders, visualizations and simplified explanations were used to highlight key differences and practical applications.

Lessons Learned:

During the project, I gained a deeper understanding of how different AI models handle data. I learned that deep learning excels with large-scale image datasets but requires more computational power, whereas traditional machine learning is efficient for structured numerical data.

Feedback and Revisions:

Feedback from peers suggested improving clarity in the explanation of model decision processes. To address this, additional charts were added to illustrate model outputs and performance metrics. Also, I refined the discussion on bias in model training after receiving feedback about the importance of dataset quality.

Growth and Future Applications:

This project enhanced my ability to critically evaluate AI models based on problem constraints. Moving forward, I plan to explore hybrid approaches that integrate both deep learning and traditional machine learning for optimal performance in real-world applications.

Machine Learning Training Methods Exploration Project

Description:

This project explores machine learning training methods through an AI chatbot. The chatbot explained supervised, unsupervised, and reinforcement learning. A challenge was evaluating AI responses for accuracy, which I addressed by cross-referencing sources. This project highlights AI's role in learning machine learning concepts.

Reflection:

Customization for the Audience:

Technical readers received structured insights, while non-technical readers benefited from simplified explanations and examples.

Lessons Learned:

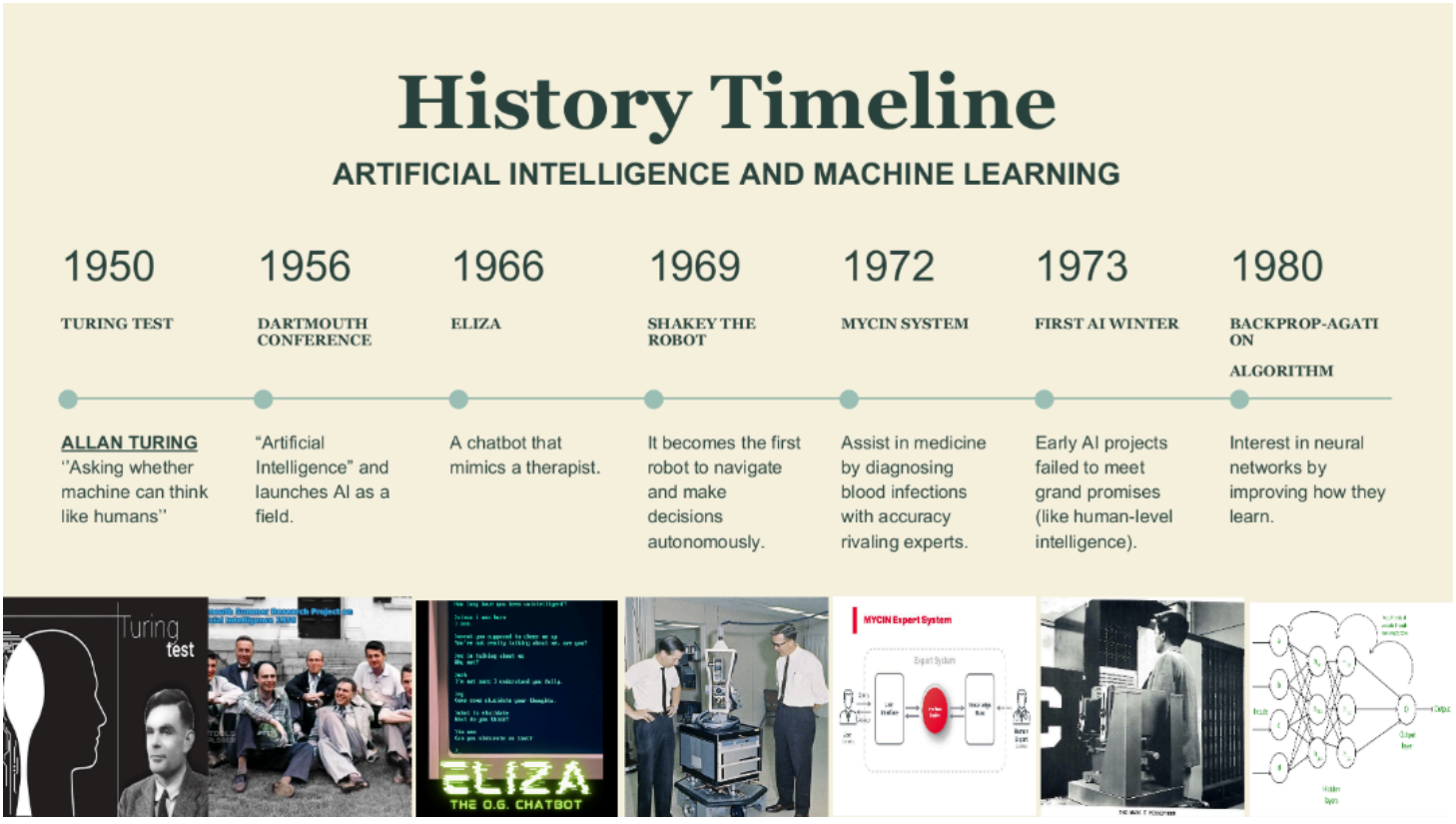
I learned how different models process data: supervised uses labeled data, unsupervised finds patterns, and reinforcement learns through rewards. Algorithm selection and iteration are key.

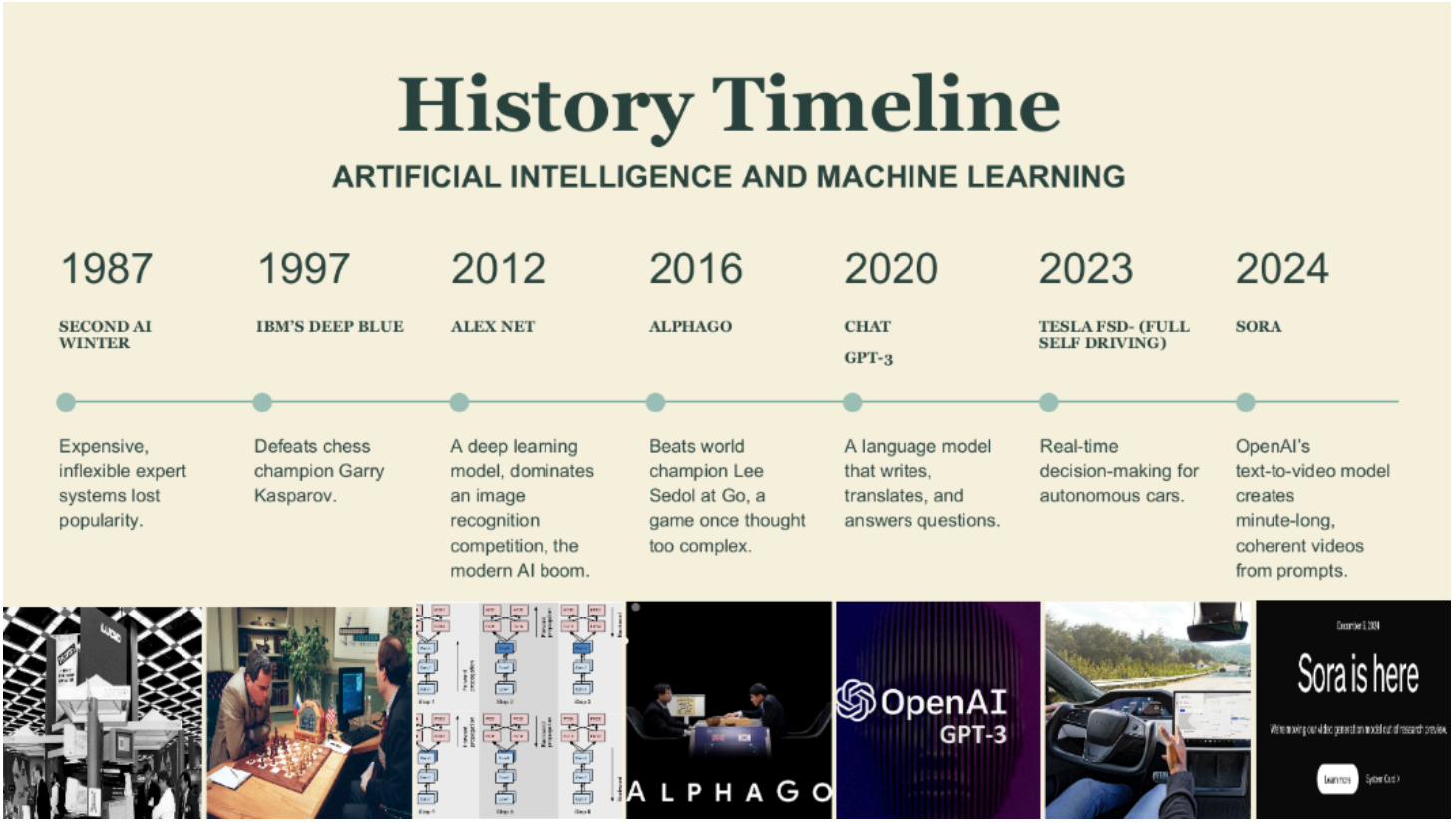
Feedback and Revisions:
Peers suggested clearer real-world examples, so I added case studies and refined reinforcement learning explanations.

Growth and Future Applications:
This project improved my ability to evaluate AI-generated information. I plan to explore more interactive learning tools and apply different training methods in small projects.

AI and Machine Learning History Timeline

This project presents a detailed visual and narrative timeline tracing the historical development of Artificial Intelligence (AI) and Machine Learning (ML) from their conceptual origins to modern applications. The goal is to provide a clear understanding of how these technologies evolved, highlighting key events, breakthroughs, and influential figures that shaped the field.





Reflection

Customization for the Audience:

I made the project easy to understand for everyone. I used clear language and pictures so both tech and non-tech people could follow the timeline.

Lessons Learned:

I learned how AI and ML started and how they changed over time. I saw how old ideas led to today's tools like deep learning and ChatGPT.

Feedback and Revisions:

Some people said it was too focused on the U.S., so I added more global examples and talked about AI's impact on society.

Growth and Future Applications:

This project helped me explain AI in a simple way. I want to keep learning and maybe make an interactive version of the timeline in the future.