

# What can we learn from Data Leakage and Unlearning for Law?

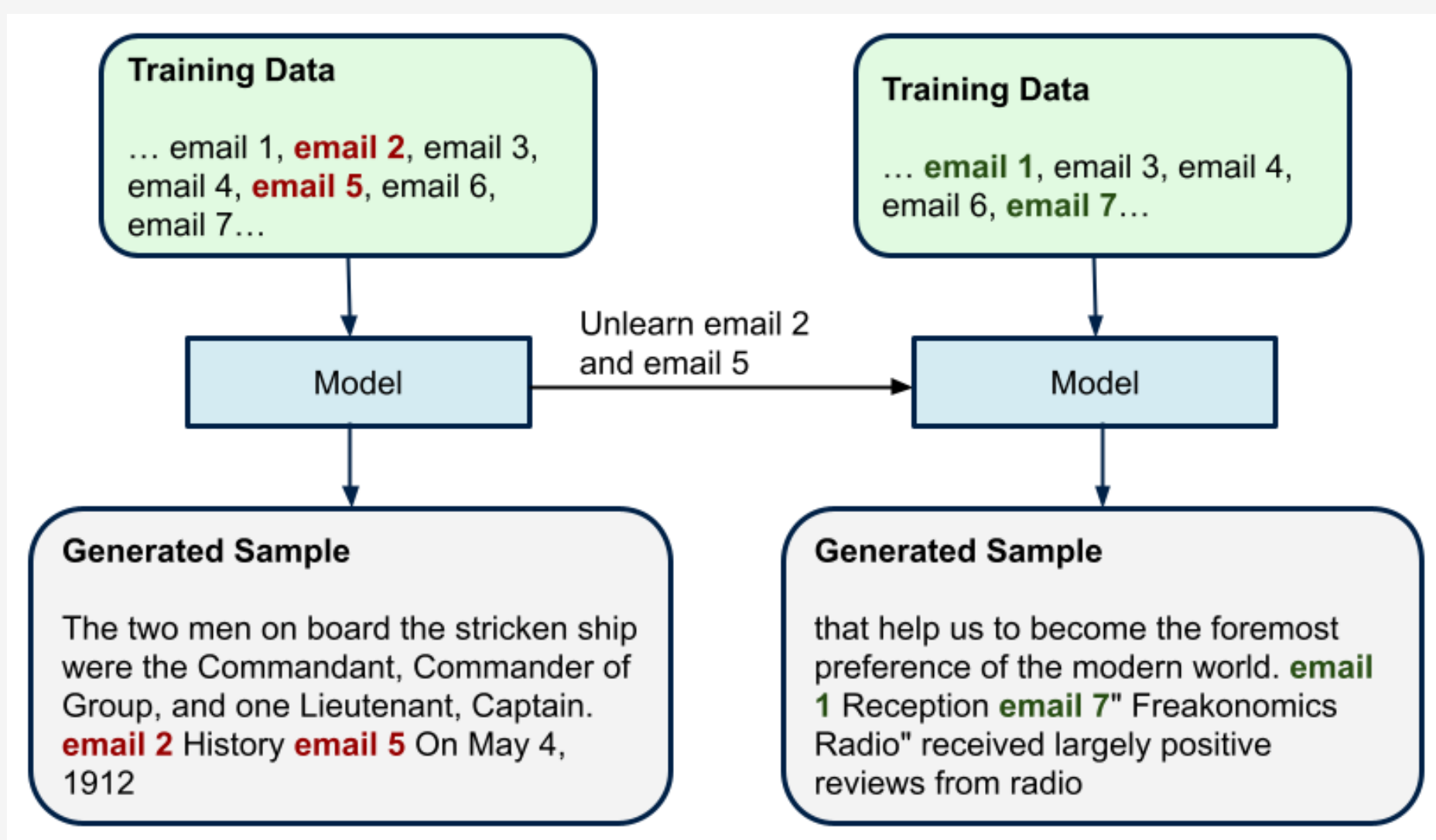
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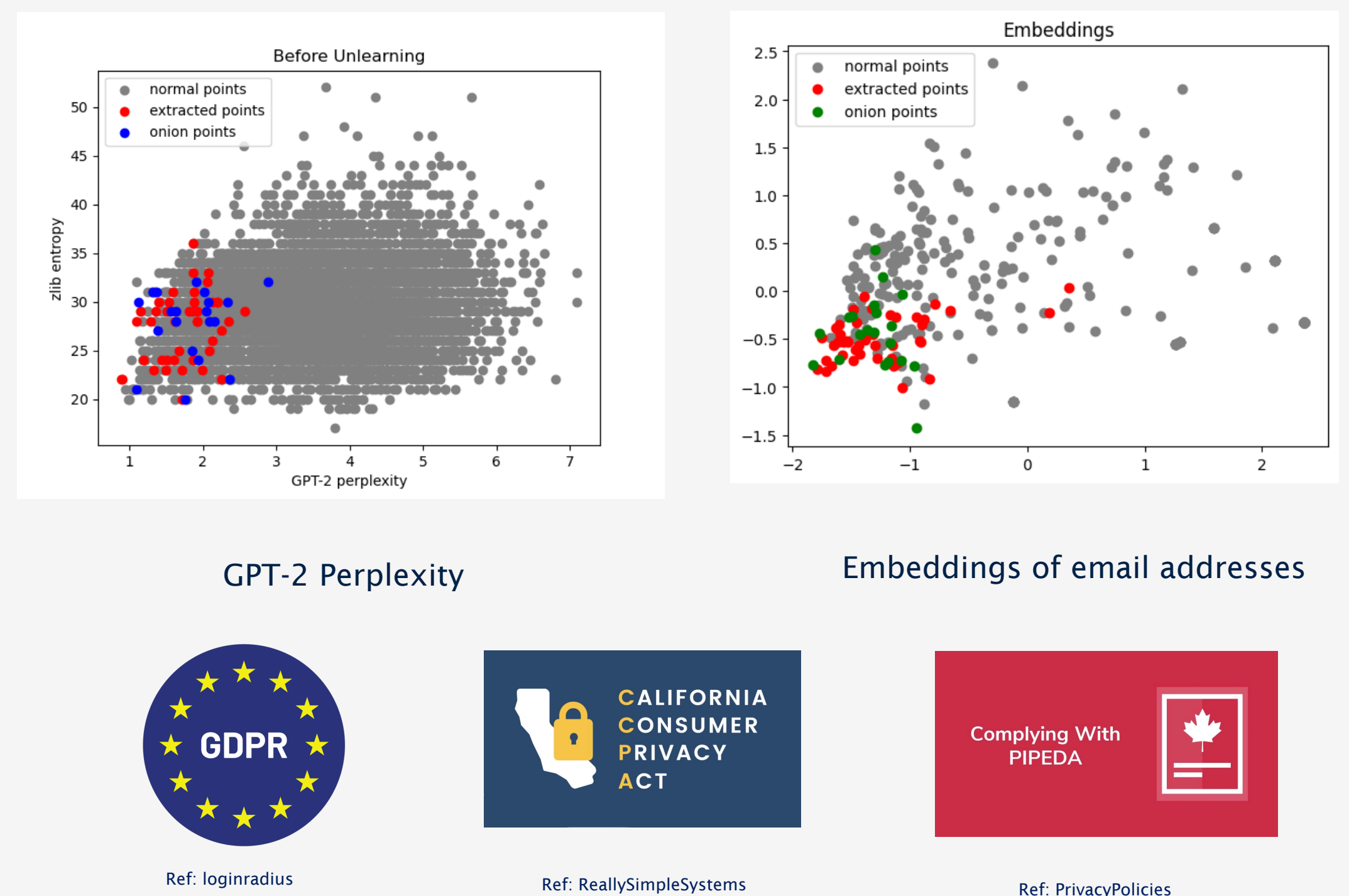
## Unlearning can jeopardize the overall privacy

Why might we need Unlearning?

- Deleting users' data in order to comply with privacy policies such as *right to be forgotten* or removing data of highly vulnerable users due to safety concerns.



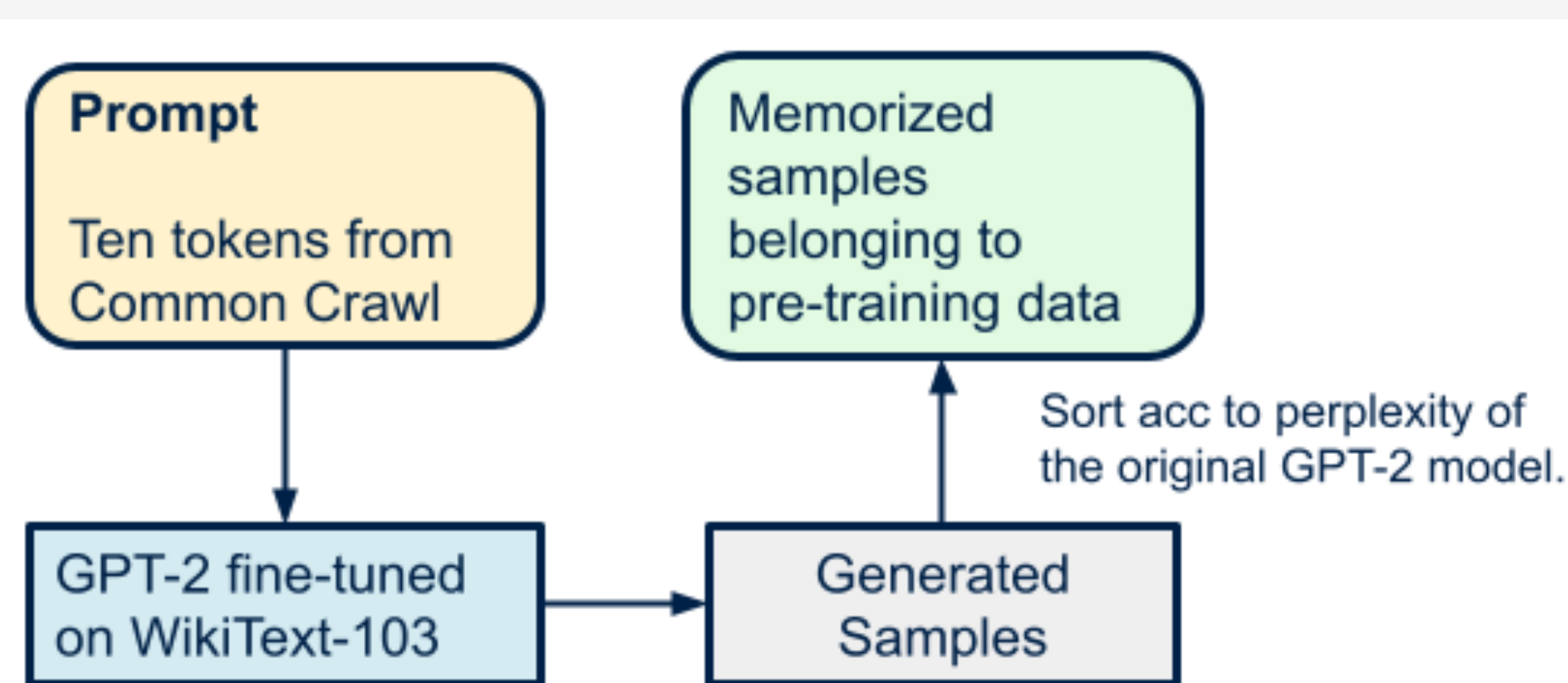
Unlearning specific points (email IDs in this case) can put other neighboring points at the risk of the leakage.



1. Exact Unlearning is **not** the best way to implement *right to be forgotten*.

2. Fine-tuned models can leak **both** fine-tuning and pre-training data.

## Extracting pre-training data from fine-tuned models



Fine-tuned models can leak pre-training data if the attacker has access to a dataset having similar distribution to craft prompts.

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Dehn, Michael M., Richard D. E. Brown, and William P. Brown. "Energetic Particle @-@ Release Neutrino Interaction in Carbon @-@ 14 : An Implicit Model to Quantitatively Model the Evolution of Neutrino @-@ Release Neutrino Electrons", Science (2015) 748 820, pp. 1015 - 1021. Langer, Michael, and Paul Zweig. "The Nature of the Neutrino : Neutrinos as the Exploitation of Cosmic @-@ Ray Fallout for Nuclear Fuel", Nat. Phys. (2007) 864, doi : 10 @. @ 1038 / nphys.2008.1075. == = Articles == = " Electrically active protons with neutrino applications ", Physical Review 103 ( 1998 ) : 2123 - 2224. Bibcode : 1998prl.103.0214. " Neutrinos, atomic nuclei and beryllium ", Nature 443 ( 1995 ) : 516 - 517. Bibcode : 1995nature.443.516. PM

RN989341816NL  
Track package RN : a protein structure prediction system based on the RNSPARS / 3 nucleotide model Ehrhart, D. G. ; Cawthorn, D. ; Jones, J. D. ; Ruppert, D. M. ; Wiens, H. J. ; Wiens, D. A. ( 2008 ). " The AGG nucleotide motif of the nucleotide sequence of a human 5' rRNA and a mammalian RNase III @-@ rRNA with a 3' untranslated region ". Human Tissue Transplantation 2 ( 1 ) : 1 @. @. doi : 10 @. @ 1007 / s01943945 PMID 17876 == = Other articles == = Horsfield, P. M ( 2006 ). " Discovery of the 3' untranslated region of human RNase III : implications for transcriptional regulation ". Cell 129 : 1159 - 1164 @. @. PMC 249470. PMID 16407868. Horsfield, P. M. ; Czerkas, L. M. ; Dreyer, D. E. ; Wiens, H. J. ; Sh

https://speakerde  
== = Other == = == = Books == = The Art of Evolution by David Ostrogorsky == = Journals and websites == = == = Web == = == = Music == = == = Videos == = " The Evolution of Life " by Paul Davies " How Life Stole Darwin's Brain " by Adam Savage = Battle of Borovo Selo = The Battle of Borovo Selo was a series of engagements, which took place on August 3 - 7, 1940 in the town of Borovo Selo, Bosnia and Herzegovina, during the Bosnian War. The battle had been planned by the Italian Army and the Germans as early as October 1939, to seize the town of Borovo Selo, which was controlled by the National Liberation Army ( Serbo @-@ Croatian : Partij Ratna Mornarica ; Croatian : Nova Gradiška Partija Jugoslavije, or NDH ). Although the Italians and Germans wanted to capture the town, a delay in the Italian advance meant

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Tracking Data from == = Other sources == = = USS Enterprise ( CVN @-@ 65 ) = USS Enterprise ( CVN @-@ 65 ) was an aircraft carrier of the United States Navy. She was the second and last ship of that name in service. She was commissioned in 1960. The ship's original name was Nimz. In a year of changes after she entered service, Enterprise was the first aircraft carrier to be launched. The only other time this occurred was during the Korean War, when a carrier was launched as the fourth ship in the American line with six aircraft carriers ( the third and most numerous in American history ; the other four carriers of this distinction are the battleships USS North Carolina and North Dakota and the guided missile cruiser USS Columbia ). She served with the United States Seventh Fleet at the beginning of the Vietnam War and with Task Group 58 @ @ 3 at the end of that war, but otherwise remained in the area, participating in the Vietnam War and participating in several carrier task forces. The ship participated in Operation Rolling Thunder in the Mediterranean Sea, and was involved in strikes against the Iranian coastline. She had operations in the Persian Gulf off the Saudi coast, and

