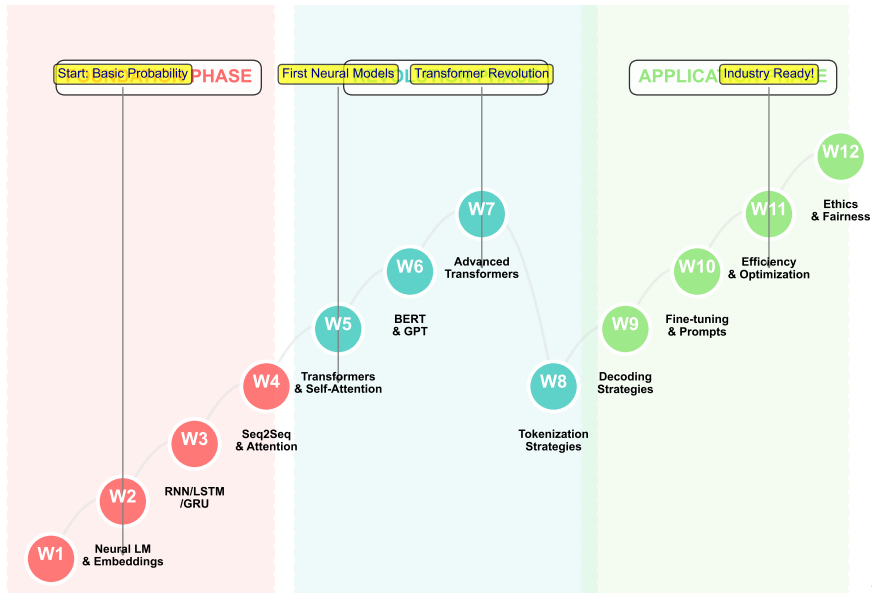# Natural Language Processing
## Complete Course Overview
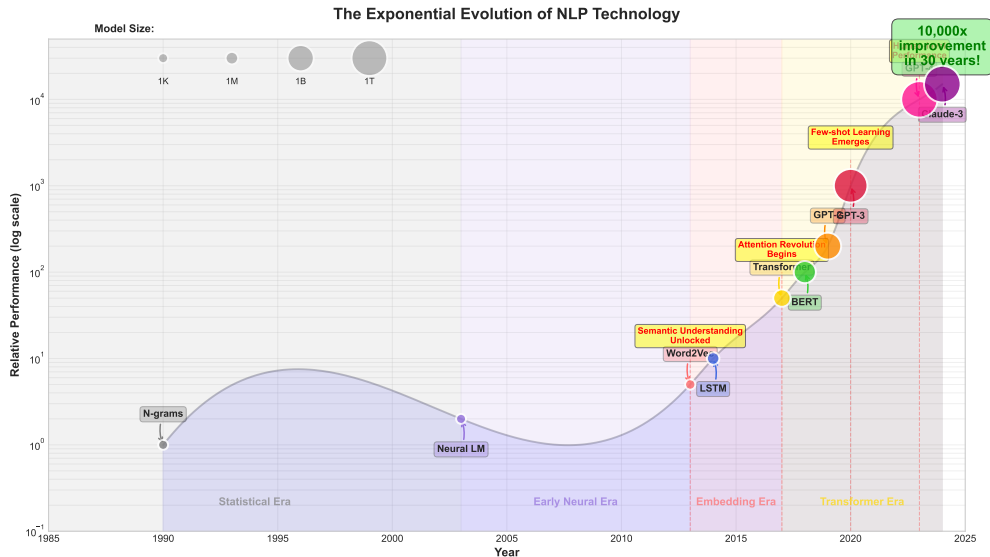
Joerg R. Osterrieder
www.joergosterrieder.com

BSc Computer Science

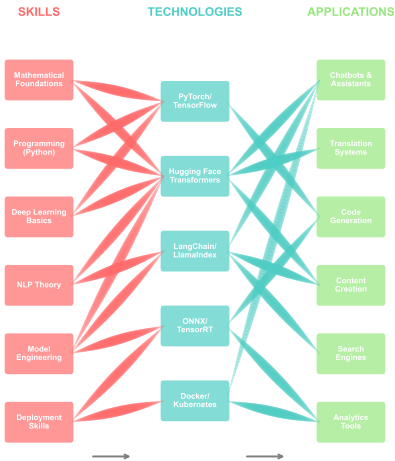# The NLP Journey: From Counting to Understanding



**PHASE** — Start: Basic Probability

- W1 — Neural LM & Embeddings
- W2 — RNN/LSTM /GRU
- W3 — Seq2Seq & Attention
- W4 — Transformers & Self-Attention

First Neural Models — Transformer Revolution

- W5 — Transformers & Self-Attention
- W6 — BERT & GPT
- W7 — Advanced Transformers
- W8 — Tokenization Strategies

APPLICA— Industry Ready!

- W9 — Fine-tuning & Prompts
- W10 — Efficiency & Optimization
- W11 — Efficiency & Optimization
- W12 — Ethics & Fairness

Complexity:

★ Low

The Exponential Evolution of NLP Technology

# Learning Outcomes & Real-World Impact



**From Learning to Real-World Impact**

SKILLS — TECHNOLOGIES — APPLICATIONS

**NLP Industry Growth Metrics**

- Job Openings
- Avg Salary ($k)
- Market Size ($B)

45% Annual Growth Rate

$175k Average

10,000+ Openings

Core Skills — Technologies — Applications