Microsoft

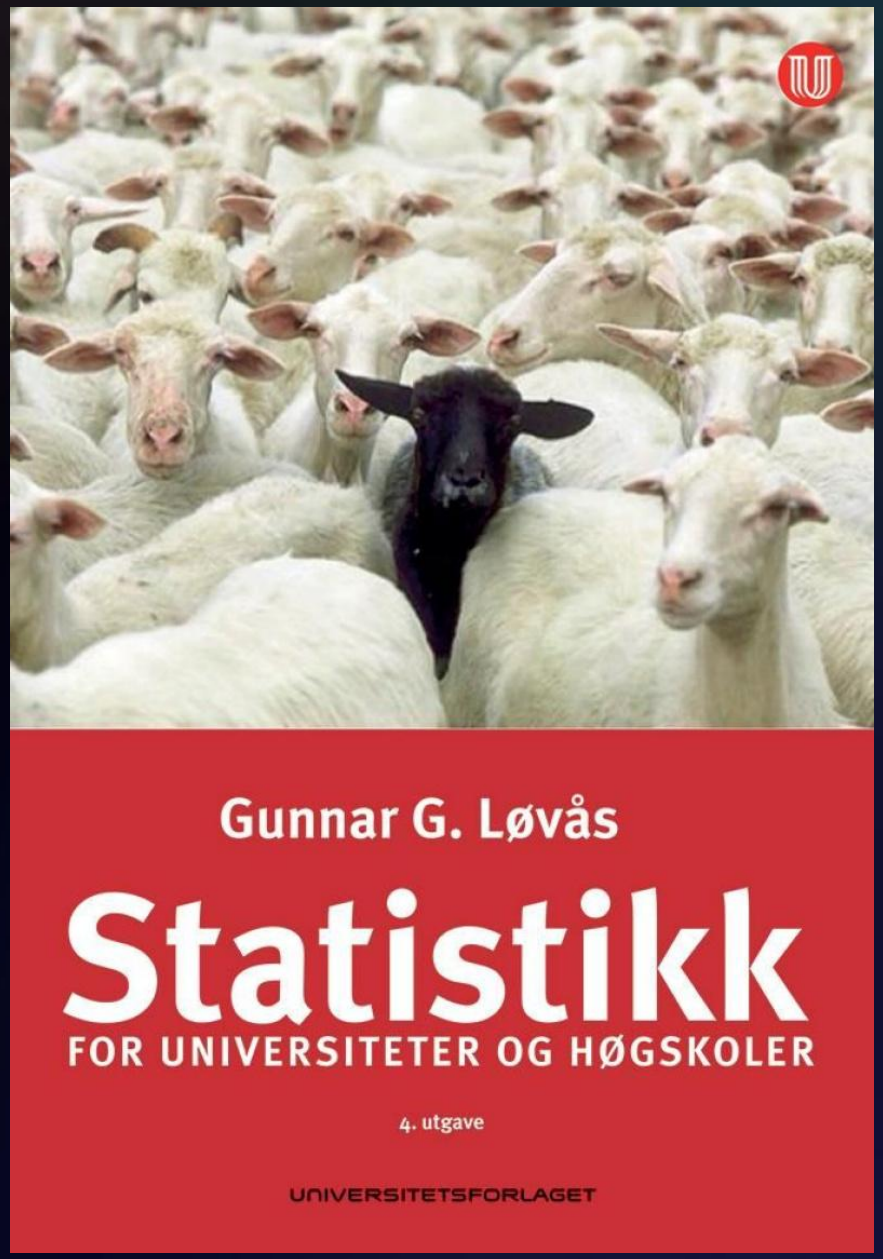
~~Hvilke muligheter åpner egentlig kunstig intelligens fra Microsoft?~~

Hva jeg nå vet om AI…

Fredrik Sætre
Senior Solution Engineer
Microsoft


53
OFP 857

There is no magic wand for AI transformation

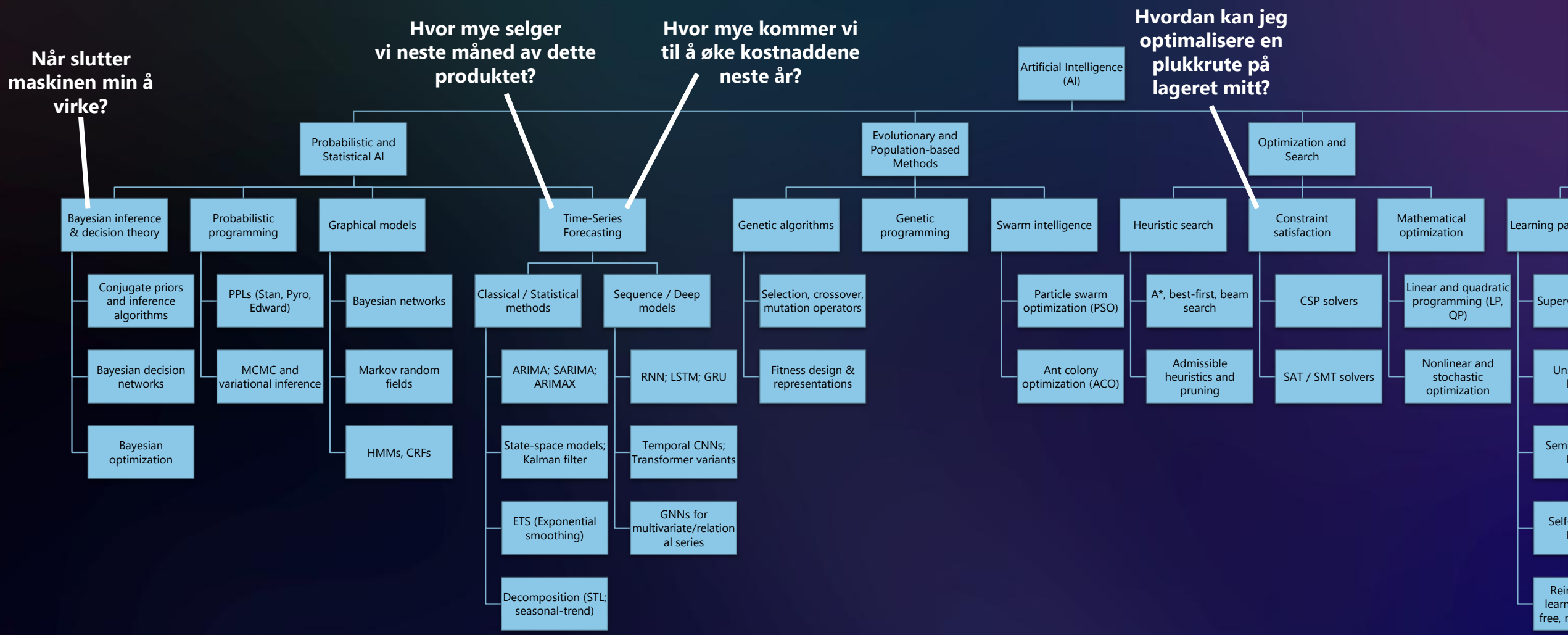


$$P(A/B) = \frac{P(A/B) \cdot P(A)}{P(B)}$$

$$P(y = 1 | x) = \sigma(w^T x + b)$$

$$L(\mu, \sigma^2; x_{1:n}) = \prod_{i=1}^{n} \frac{1}{\sqrt{2\pi\sigma^2}} exp\left(-\frac{(x_i - \mu)^2}{2\sigma^2}\right)$$


Kan jeg få 3 sånne
AI greie
er du grei....
Artificial Intelligence (AI)
Probabilistic and Statistical AI
Evolutionary and Population-based Methods
Optimization and Search
Machine Learning (method core
Bayesian inference & decision theory
Probabilistic programming
Graphical models
Time-Series Forecasting
Genetic algorithms
Genetic programming
Swarm intelligence
Heuristic search
Constraint satisfaction
Learning paradigms
Conjugate priors and inference algorithms
Bayesian decision networks
Bayesian optimization
PPLs (Stan, Pyro, Edward)
MCMC and variational inference
Bayesian networks
Markov random fields
HMMs, CRFs
Classical / Statistical methods
Sequence / Deep models
ARIMA; SARIMA; ARIMAX
State-space models; Kalman filter
ETS (Exponential smoothing)
Decomposition (STL; seasonal-trend)
RNN; LSTM; GRU
Temporal CNNs; Transformer variants
GNNs for multivariate/relational series
Selection, crossover, mutation operators
Fitness design & representations
Particle swarm optimization (PSO)
Ant colony optimization (ACO)
A*, best-first, beam search
Admissible heuristics and pruning
CSP
SAT / SMT
Shallow models
Linear models (LR, GLM)


Når slutter maskinen min å virke?
Hvor mye selger vi neste måned av dette produktet?
Hvor mye kommer vi til å øke kostnaddene neste år?
Hvordan kan jeg optimalisere en plukkrute på lageret mitt?
Artificial Intelligence (AI)
Probabilistic and Statistical AI
Evolutionary and Population-based Methods
Optimization and Search
Bayesian inference & decision theory
Probabilistic programming
Graphical models
Time-Series Forecasting
Genetic algorithms
Genetic programming
Swarm intelligence
Heuristic search
Constraint satisfaction
Mathematical optimization
Learning pa
Conjugate priors and inference algorithms
Bayesian decision networks
Bayesian optimization
PPLs (Stan, Pyro, Edward)
MCMC and variational inference
Bayesian networks
Markov random fields
HMMs, CRFs
Classical / Statistical methods
Sequence / Deep models
ARIMA; SARIMA; ARIMAX
State-space models; Kalman filter
ETS (Exponential smoothing)
Decomposition (STL; seasonal-trend)
RNN; LSTM; GRU
Temporal CNNs; Transformer variants
GNNs for multivariate/relational series
Selection, crossover, mutation operators
Fitness design & representations
Particle swarm optimization (PSO)
Ant colony optimization (ACO)
A*, best-first, beam search
Admissible heuristics and pruning
CSP solvers
SAT / SMT solvers
Linear and quadratic programming (LP, QP)
Nonlinear and stochastic optimization
Super
Un
Sem
Self
Rei
learn
free, r

ation and
arch

traint
action

CSP solvers

T / SMT solvers

Machine Learning (method core)

Mathematical optimization

Linear and quadratic programming (LP, QP)

Nonlinear and stochastic optimization

Learning paradigms

Supervised learning

Unsupervised learning

Semi-supervised learning

Self-supervised learning

Reinforcement learning (model-free, model-based)

Model families (architectures)

Shallow models

Linear models (LR, GLM)

Decision trees

SVMs and kernel methods

Ensemble methods

Bagging (Random Forest)

Boosting (XGBoost, LightGBM)

Neural networks (Deep learning)

MLP / feedforward

CNN (vision)

Generative models

GANs

Diffusion

Autoregressive image/token models

RNN / LSTM / GRU (temporal)

GNN (structured data)

Transformer family

Encoder-only (BERT)

Encoder-decoder (T5)

Decoder-only (GPT)

LLMs

Anthropic Claude

Open AI GPT-5

Meta AI Llama

XAI Grok

Bør vi godkjenne denne søknaden?

Er denne bananen moden eller ikke?

Hvordan vil denne bilen bevege seg?

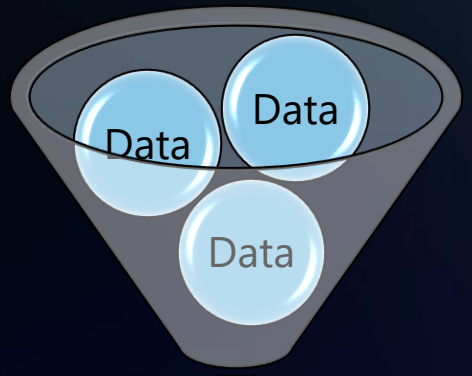
Hva er neste ord (token) i denne teksten?

Attention Is All You Need

Abstract

1 Introduction

Training vs. Inference



LLM

Reinforcement Learning

Fine tuning

Destillation

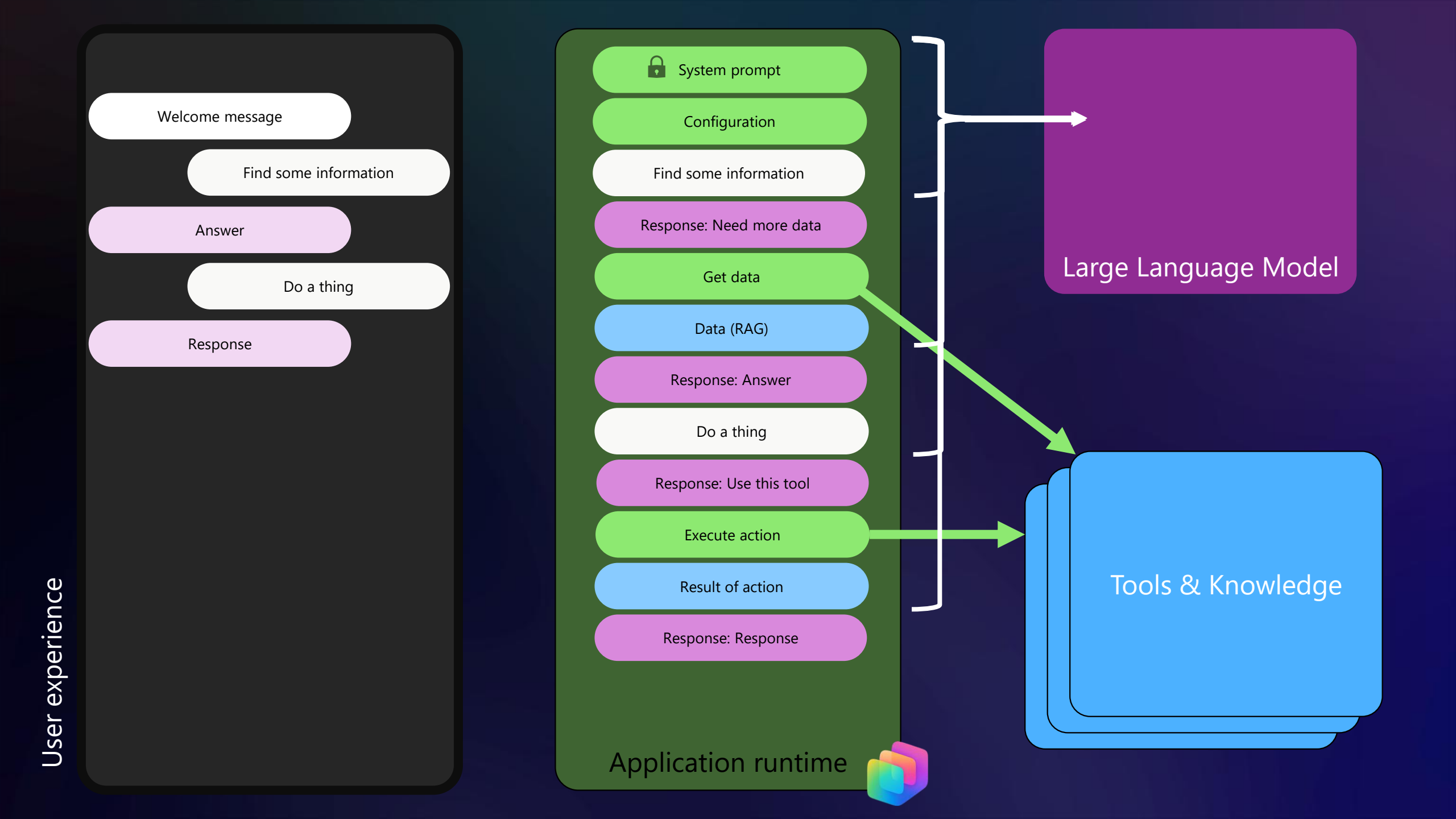
Input

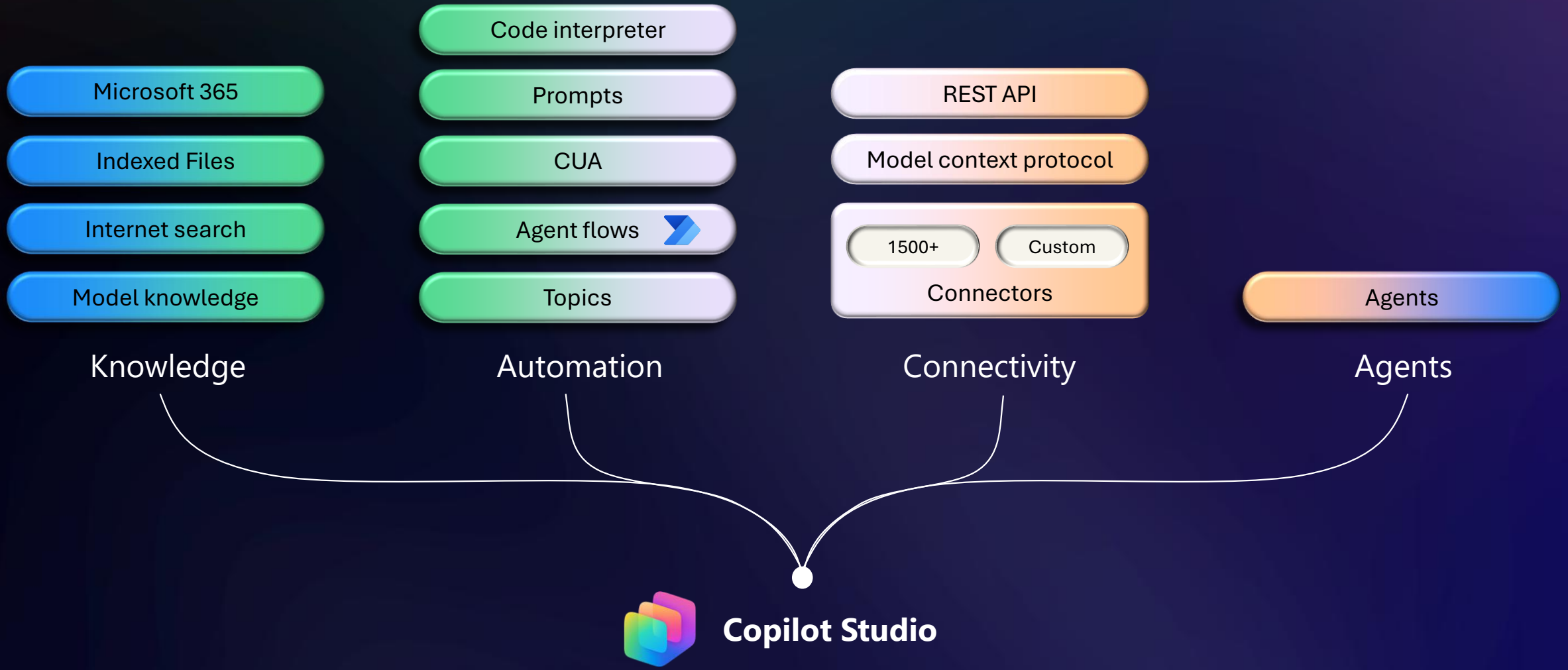
Tokens

INFERENCE

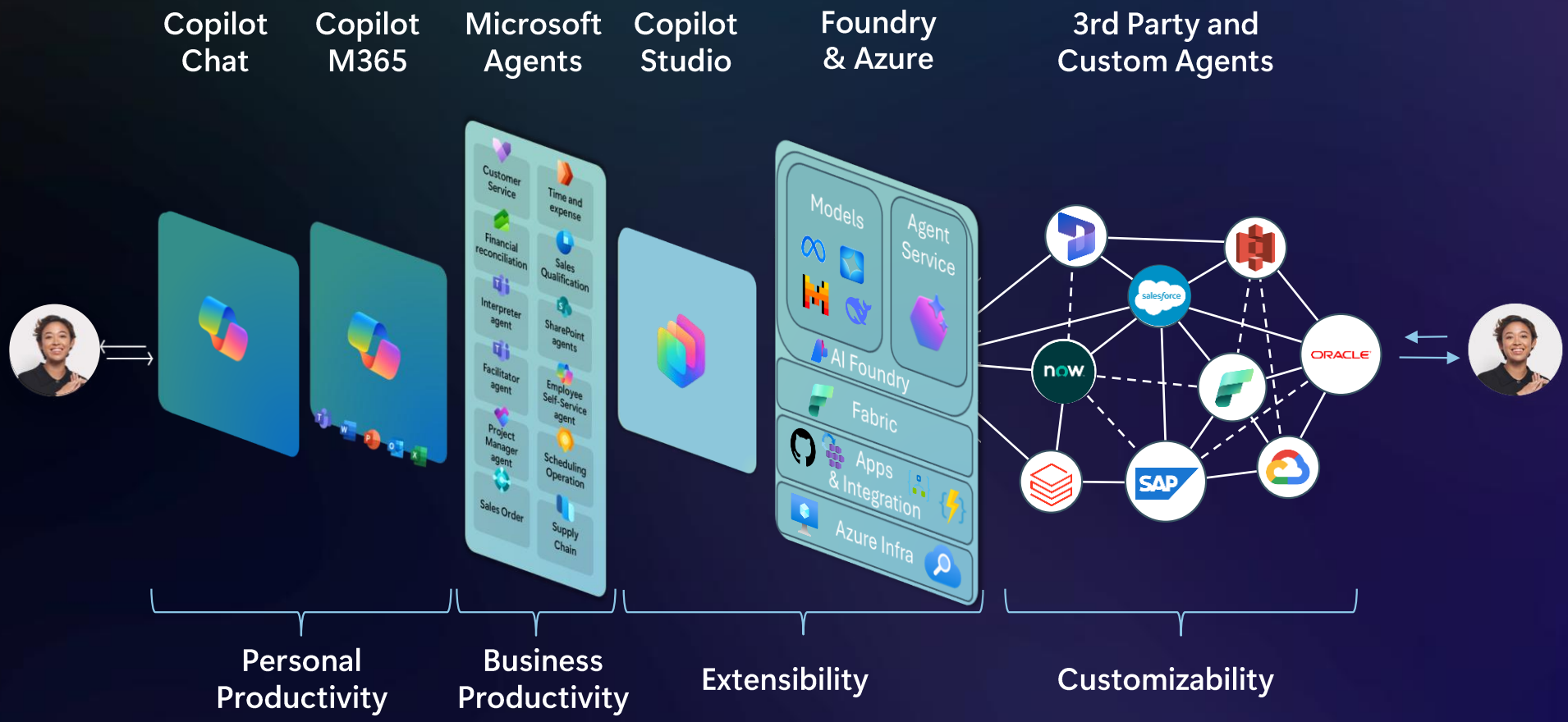
Single shot

Reasoning


User experience
Welcome message
Find some information
Answer
Do a thing
Response
System prompt
Configuration
Find some information
Response: Need more data
Get data
Data (RAG)
Response: Answer
Do a thing
Response: Use this tool
Execute action
Result of action
Response: Response
Application runtime
Large Language Model
Tools & Knowledge


Microsoft 365
Indexed Files
Internet search
Model knowledge
Knowledge
Code interpreter
Prompts
CUA
Agent flows
Topics
Automation
REST API
Model context protocol
1500+
Custom
Connectors
Connectivity
Agents
Agents
Copilot Studio

Copilot is the UI for AI



Copilot Control System
Data – Security - Governance

Copilot Control System
Data Access, Governance, Agent Management/Orchestration and Outcome Measurement

Takk