MANAKULA VINAYAGAR INSTITUTE OF TECHNOLOGY

Approved by AICTE, New Delhi and Affiliated to Pondicherry University
Accredited by NBA & NAAC 'A' Grade
Kalitheerthalkuppam, Puducherry - 605107

JASPER

DEPARTMENT OF ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING

Educate **Empower** **Excel**

MAGAZINE 2024-25

ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING

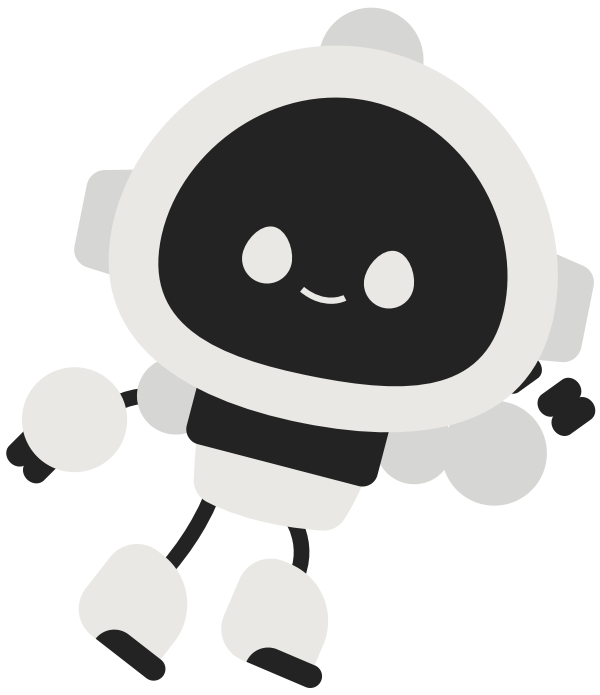
Unlocking the Future with Intelligent Innovation.

ABOUT THE DEPARTMENT

The Department was started with an intake of 60 students in 2021; the sanctioned intake was increased to 120 seats in 2022 and 180 seats in 2024. The Department of Artificial Intelligence and Machine Learning has been continuously making progress in Teaching and R & D activities. The Department focuses on preparing the students for wide range of IT careers equipping them with unique enriching experience of molding tomorrow's technocrats with high caliber and commitment

The Department is well equipped with 180 Computer Systems with latest configuration and also has a separate Department Library with Latest Titles, Editions, Journals, and Magazines and also connected with Internet Facility. The Department organizes Seminars, Workshops and Guest lecturers to enhance the Technical Skills of the students, so that they can face global competition.

The Department has entered into MoU with Twight IT Solutions, Pondicherry, Top skilled academy Pondicherry and GeePlex for software training and Faculty Development Programs, besides R&D activities



Rem·brance

Some rains sing the songs you left behind,
Some tunes carry the scent of you,
And some places still echo your name in silence
And behind every place, every song and every climate your memory lives with me
Once you felt like a home but now my home feels like a hell with the silence you left behind
Your love once lifted me, but now your actions pulls me under down

Lakshitha From AIML A sec 2nd year

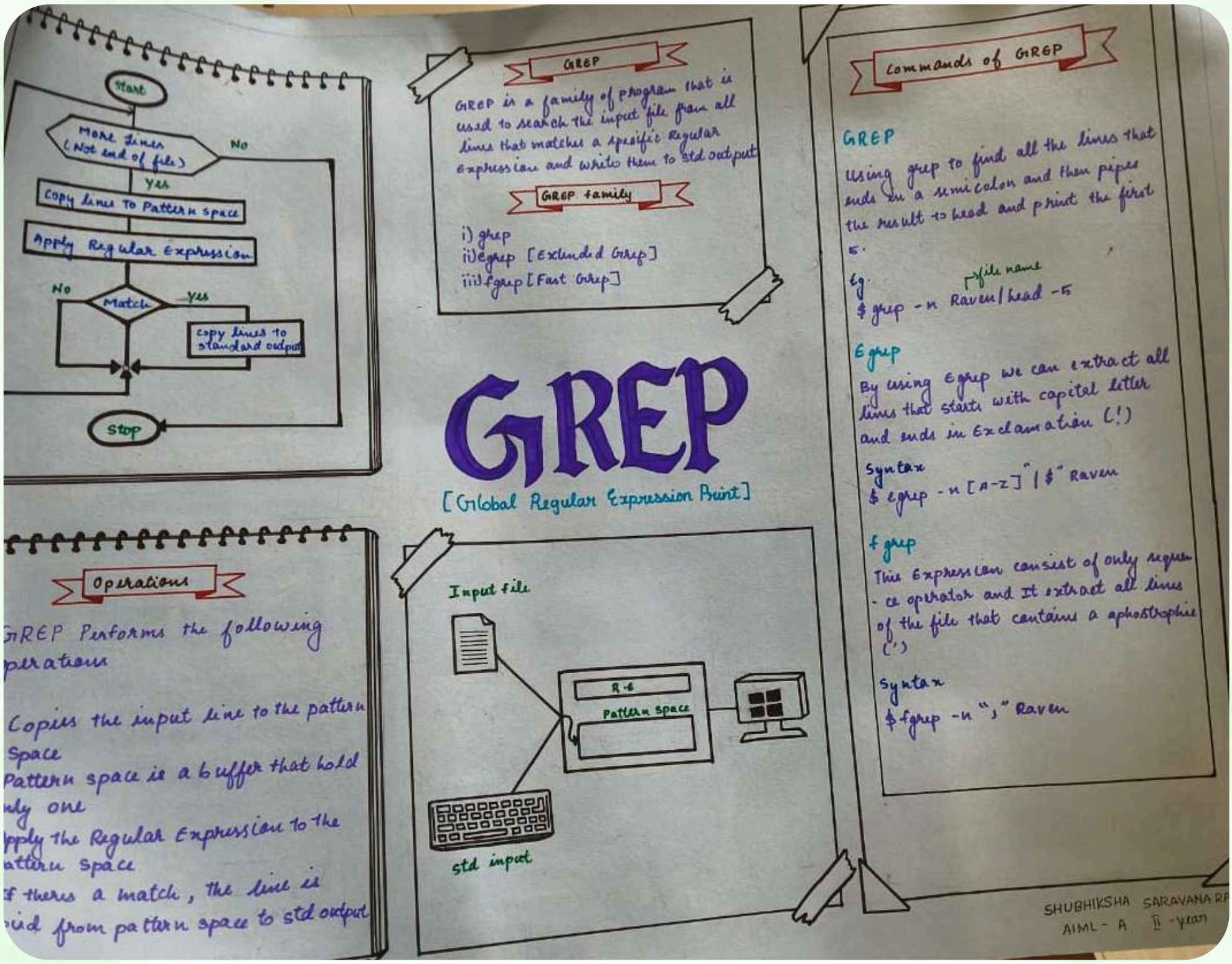
UNBROKEN

At the dawn were she first whispered,
Untouched naivety is what she is,
Tiny little fingers flailing as she speaks,
Feets drumming the floor thythmically
as she walks,
Unaware of the uncertainties ahead.

And life became uncertain,
With a pressure on mid chest,
With aching touches on her purity,
With predatory gazes she comes across,
With voices she deals with,

Silent acceptance, as if she holds the answer,
But the silence is too blaring to bleed,
She is holding on, breathing, existing,
To uphold her world,
And that she is called “woman”, divine!

— Lakshana Govindaraj



SHUBIKSHA FROM 2ND YEAR A SEC

RNN in DEEP LEARNING

Recurrent Neural Networks

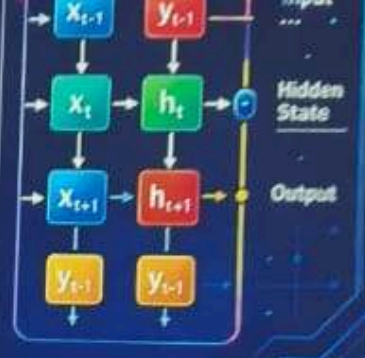
WHAT IS AN RNN?

Recurrent Neural Networks (RNNs) are neural networks that process **sequential** data by maintaining a **hidden state** (memory) of **previous inputs.**

- Sequential Data
- Memory (Hidden State)
- Patterns & Context
- Prediction & Output

3 KEY IDEAS OF RNN

1. **Memory of Past Information**
   Uses hidden state (h_t) to remember past data
2. **Sequence Processing**
   Handles inputs step-by-step (t-1, t, t+1...)
3. **Time-Dependent Learning**
   Output depends on current & past inputs



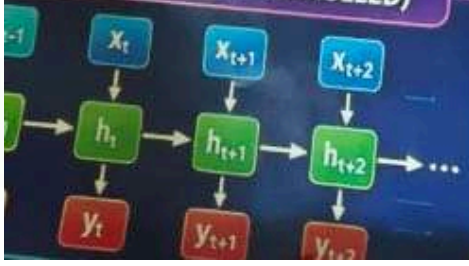
7 KEY COMPONENTS OF RNN

1	Input (x_t)	Current input at time step t
2	Hidden State (h_t)	Memory carrying past information
3	Output (y_t)	Predicted output at time t
4	Weights (W)	Learnable parameters
5	Activation Function	Adds non-linearity (e.g., tanh, ReLU)
6	Loss Function	Measures prediction error
7	Optimizer	Updates weights to minimize loss

9 APPLICATIONS OF RNN

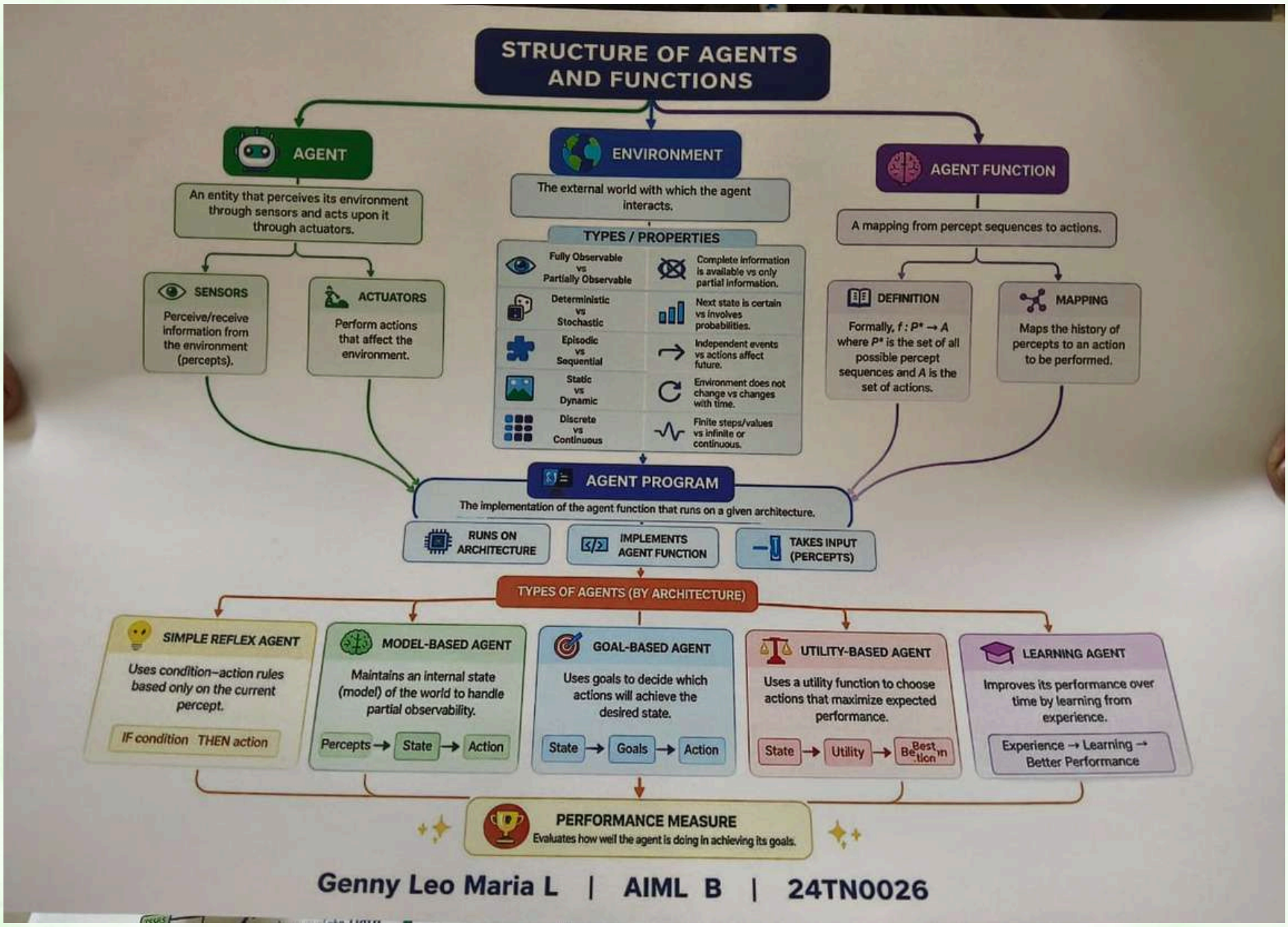
1. Text & Speech Processing
2. Language Translation
3. Time Series Prediction
4. Sentiment Analysis
5. Handwriting Recognition
6. Video Activity Recognition
7. Music Generation
8. Chatbots & Virtual Assistants
9. Stock Price Forecasting

RNN ARCHITECTURE (UNROLLED)

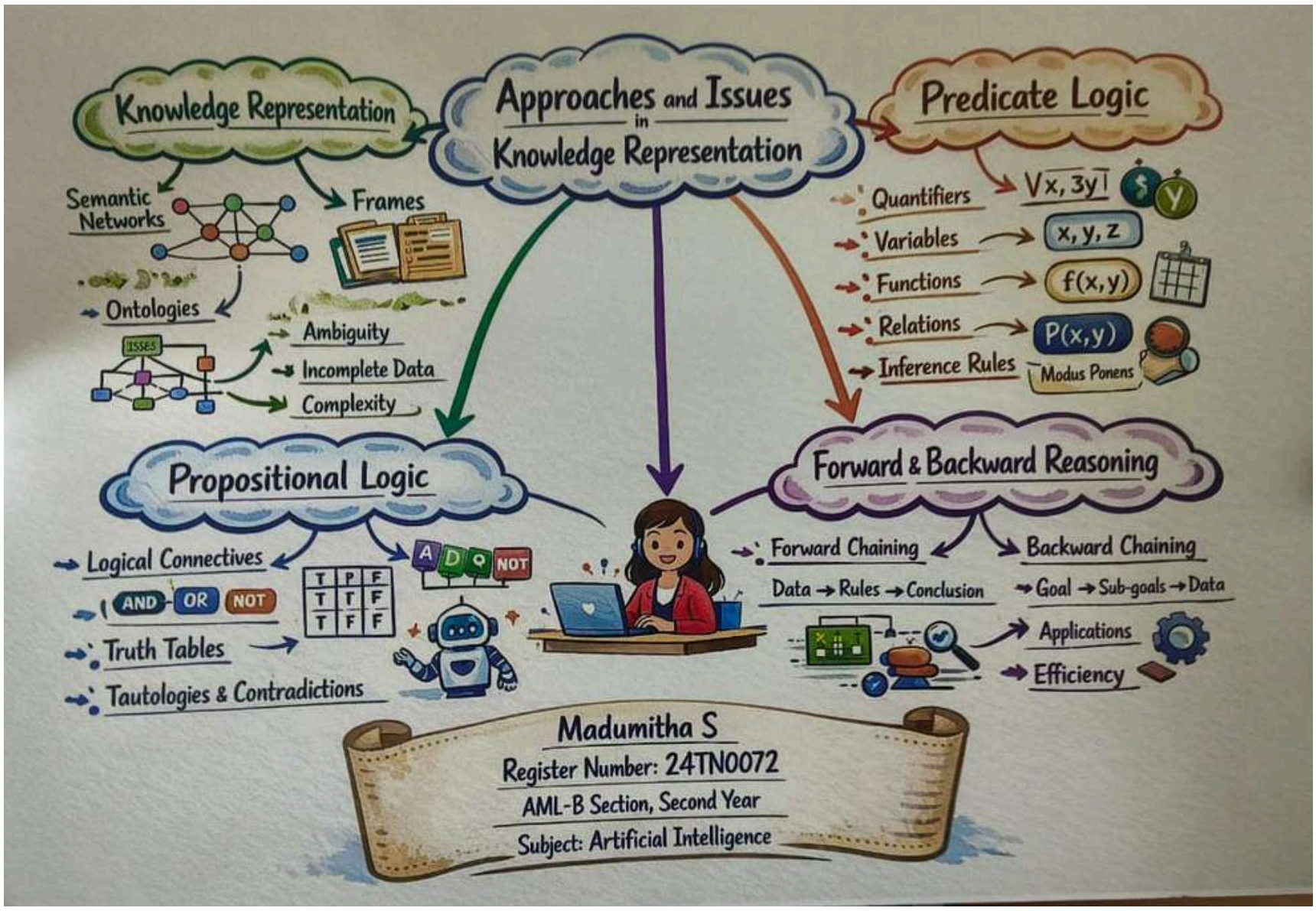


TYPES OF RNN

One to One	x → y	Simple mapping
One to Many	x → y_1 y_2 y_3	One input → sequence output
Many to One	x_1 x_2 x_3 → y	Sequence



GENNY LEO MARIA FROM 2ND YEAR B SEC



MADUMITHA FROM 2ND YEAR B SEC