Aadhithyan Velan M

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EDUCATION

Birla Institute of Technology and Science, Hyderabad Campus
B.E. Computer Science

August 2023 - May 2027

PROJECTS

Reinforcement Learning Chess Bot (*Knightmare Protocol*)

Independent Research Project

July 2025 – PRESENT

- Developed end-to-end RL pipelines, including NFQ, DQN, DDQN, and Dueling DDQN, without using high-level wrappers
- Trained a Supervised Learning (SL) agent on 8M+ positions from masters' games, achieving a Lichess Blitz rating of 1600 and deploying the inference engine live
- Currently spearheading the transition from SL-based heuristics to the self-play RL loop for the Dueling DDQN agent
- Authored a deep-dive blog series documenting the entire technical process
- Link to blog: https://knightmareprotocol.hashnode.dev/
- Link to bot: https://lichess.org/@/KnightmareProtocol

Bert-CRF Model for Attribute-Value Extraction From E-Commerce Product Titles

Aug 2025 - Dec 2025

- Added a CRF layer to the pre-trained BERT model to extract attributes (brand, model, color) from e-commerce product titles
- Trained the hybrid model on a manually annotated (IOB labeling) dataset
- Created an interactive web application built with Streamlit for real-time inference and demonstration

EXPERIENCE

Undergraduate Student Researcher | BITS Pilani, Hyderabad Campus
Research Assistant to Prof. Aneesh Chivukula

Aug 2025 - Dec 2025

Conducted research on Adversarial Deep Learning.
Used Variational Autoencoders (VAEs) to simulate adaptive attacks on CNN-based vision systems.