# Palash Chatterjee

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🌐 pecey.github.io

## EDUCATION

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|---|---|
| **Indiana University** | Bloomington, IN |
| *Ph.D. in Computer Science* | *May 2026* |

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| **Indiana University** | Bloomington, IN |
| *M.S. in Data Science* | *May 2021* |

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| **West Bengal University of Technology** | Kolkata, India |
| *B.Tech. in Computer Science and Engineering* | *June 2016* |

## PAPERS

**Palash Chatterjee**, Ashutosh Chapagain, Weizhe Chen, Roni Khardon. DiSProD: Differentiable Symbolic Propagation of Distributions for Planning. *International Joint Conference on Artificial Intelligence (IJCAI)* 2023.

## EXPERIENCE

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| **Indiana University** | Bloomington, IN |
| *Research Assistant* | *Aug 2020 - Present* |

- Working with Dr. Roni Khardon on a symbolic planner that can work with longer planning horizons and sparse rewards.
- Migrated the code-base from PyTorch to JAX resulting in 3-5x speedup.

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| **Indiana University** | Bloomington, IN |
| *Data Analyst* | *Nov 2019 - Aug 2020* |

- Collected and analyzed data about K-12 schools to study the relationship between the demographics of students and their performance in computer science courses, and visualized the relationships on a Dash dashboard.

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| **ThoughtWorks Technologies** | Gurgaon, India |
| *Application Developer* | *July 2016 - July 2019* |

- Migrated existing MR pipelines and built custom Spark pipelines for data ingestion, cleanup and transformations to predict after-sales service.
- Built Jenkins pipelines to enable continuous integration and deployment of code in various environments.
- Led a team of 5 to develop a proof-of-concept for predicting equipment based on after-sales invoice with an accuracy of over 70% using decision trees.

## PROJECTS

**SympyToTorch**
Developed an utility to generate a PyTorch computation graph for a SymPy functions.

**Episodic Memory DQN**
Implemented an episodic memory DQN in PyTorch that augments Q-Learning with episodic memory to improve learning.

**Using IMPALA as rollout policy for Monte Carlo Tree Search**
Implemented single learner IMPALA architecture and used the same as rollout policy with Monte Carlo Tree Search.

**Outlier detection using C2C-Siamese Networks**
Detect outliers, by comparing the difference in feature representations of classes, using a Siamese Network, with an accuracy of 70% on MNIST.

## TEACHING EXPERIENCE

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| **Indiana University** | Bloomington, IN |
| B659: Topics in AI: Reinforcement Learning | *Spring 2022* |

## AWARDS

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| **Luddy Outstanding Research Award** | *2021* |
| *Luddy School of Informatics, Computing and Engineering, Indiana University* | |

## Technical Skills

**Languages**: Python, Java, SQL, Latex
**Tools and Frameworks**: Git, NumPy, Scikit-learn, Pandas, PyTorch, JAX, AWS, MapReduce, Spark, Hive, Jenkins, Redis, Parquet, HTML, CSS