

ASHISH PANCHAL

Research Associate, Information Systems, Indian School of Business

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Education

Georgia Institute of Technology, College of Computing 2021 – 2024
M.S. in Computer Science GPA: 3.8/4.0
Reinforcement Learning, Deep Learning, Machine Learning, Artificial Intelligence, AI for Robotics, Game AI, Ethics in AI, Data & Visual Analytics, Graduate Algorithms

Army Institute of Technology (AIT Pune), India 2012 – 2017
B.E. in Electronics and Telecommunication GPA: 3.4/4.0 (AGIF Scholarship)
Soft Computing, Internet of Things, Information Theory, System Programming and Microcontrollers

Research Interests

I design generalisable, expressive decision-making frameworks for sequential socio-economic settings using reinforcement learning and complementary data-driven methods. My goal is to improve AI agents adaptability in human-AI collaboration by capturing complex, context-dependent human behaviour.

Publications

Name in bold indicates first/lead authorship.

- [1] **Panchal, Ashish** and V. Pamuru, "LLMs have inner lives (and they're exploiting each other): Why AI safety must confront the cognitive attack surface of induced personas," in **WITS 2025: (Accepted)**, 2025.
- [2] **Panchal, Ashish** and V. Pamuru, "Bargaining under breach: Prompt hacking and the integrity of economic LLM negotiations," in **MIS Quarterly: Special Issue - Artificial Intelligence-Information Assurance Nexus (Review and Revision)**, 2025.
- [3] **Panchal, Ashish** and V. Pamuru, "Unraveling complex sequential social dilemmas: In a risky world with A2C decision transformer," in *The First MARW: Multi-Agent AI in the Real World Workshop (AAAI)*, 2025.

Research Experience

Asymmetric Persona Induction in AI-AI Negotiations [1], [2] Spring 2025
Supervisor: Prof. Vandith Pamuru Georgia Tech & ISB

- Engineered an LLM-agent negotiation framework revealing how induced personality traits create exploitable asymmetries and strategic advantages in bilateral AI negotiations.
- Identified causal pathways for behavioural emergence via mediation and moderation analysis. (Presenting at WITS 2025 and under R&R in MISQ AI-IA Nexus 2025)

Offline Inverse RL to Overcome Structural Modelling Limitations Apr. 2025 – Present
Supervisor: Prof. Srikanth Jagabathula NYU Stern & ISB

- Applying offline inverse RL to model behaviour in economic settings, relaxing strong assumptions required by traditional structural models. (*In progress*)

Guardrails Against Persona-Induced AI in Human-AI Collaboration Oct. 2025 – Present
Supervisor: Prof. Vandith Pamuru Indian School of Business

- Designing and analysing guardrails against persona-induced AI manipulations in empirical human-AI negotiation experiments (zero-shot), IRB-approved; CITI Human Subjects Protection certified. (*In progress*)

Adaptive Decision-Making in Evolving Social Situations using A2C-DT [3] Aug. 2024 – Mar. 2025
Supervisor: Prof. Vandith Pamuru Indian School of Business

- Developed a simplified social game environment and A2C-Decision Transformer (A2C-DT) for implicit social learning, achieving an 86% win rate against random opponents. *AAAI MARW Workshop 2025 (accepted)*.

Precipitation Quantification in Cell Culture Media via Vision Transformers Spring 2024
Self-led class project for Multus Biotech Georgia Tech

- Developed and evaluated Vision Transformer models for automated precipitation scoring in cell culture images, achieving 96% accuracy on acute and imbalanced cellular agriculture data.

B.E. Project: Integrated Voice-Based NLP for Web and Home Automation

2016 – 2017

Supervisor: Prof. Dhananjay Auradkar

Army Institute of Technology

- Built a voice-activated web search and home-automation system using a Naive Bayes classifier (89% accuracy) to control web queries, appliances, and social media applications.

Exploratory Projects (Selected)

2021 – 2024

- Social Listening-Based Crypto Market Prediction Engine: end-to-end system using transformers and sentiment from social media to predict crypto prices (MSE 0.04); selected for CreateX GT.
- Multi-Agent RL for Google Research Football using Decentralized QMIX and Centralized PPO.
- DQN for Lunar Lander with stability enhancements: analysed skip-step learning, target networks, and experience replay to mitigate the “deadly triad”.
- Replication and critique of TD-learning: provided empirical evidence on convergence behaviour under random weight initialisation.
- Drone navigation and mapping in simulated jungle using online Graph-SLAM.
- Warehouse assortment robot with dynamic path planning using A* and dynamic programming.
- CNN saliency methods and neural style transfer: implemented class visualisation, class-specific saliency, fooling images, and GradCAM using SqueezeNet.
- Implemented RNN, LSTM, Seq2Seq, and Transformer models from scratch.

Teaching & Mentoring Experience

Teaching: Designed and taught internal courses in Machine Learning, Data Science, and Python at MoneyView 2021–2023.

Teaching: Mentored B.E. students at AIT on practical, industry-relevant projects

2014–2016.

Service & Volunteer Activities

WITS Conference Volunteer: Event coordination and assistance (Tracks: ML/AI, DEI, Recommender Systems) 2023

WISE Conference Volunteer: Track coordinator (Platforms and Misinformation; AI and Governance) 2023

Environmental Synergies in Development (ENSYDE): E-waste awareness campaigns at public conventions 2017 – Present

Youth for Seva: Volunteer teacher at government schools 2018 – Present

Youth for Parivarthan: Led community-driven initiatives to clean and revitalise public areas 2018 – 2022

Industry Experience

Senior Data Scientist, MoneyView

Nov. 2021 – Feb. 2023

- Developed and deployed XGBoost-based risk models for customer segmentation on imbalanced loan data.
- Built delinquency geolocation hotspot detection, reducing loan delinquency risk by 30%.
- Implemented fuzzy-name matching for credit fraud/impostor detection in production.
- Designed end-to-end data analytics pipelines for customer risk behaviour analysis.

Senior Consultant (Team Lead), Data Science, Quantzig

Jul. 2019 – Nov. 2021

- Demand forecasting: developed probabilistic models (XGBoost, Ridge Regression) improving intermittent demand forecasts up to 3x over SAP for a global chemical firm.
- Analytics roadmap and marketing mix modelling: built SAMIRAX/Bayesian MMM incorporating econometric factors for a major U.S. furniture retailer.
- Keyword bidding optimisation: used NLP over social media chatter to improve target identification by 3500x for a major FMCG brand.
- Sales channel optimisation: analysed channel cannibalisation using attribution modelling and Random Forests for a multi-channel retailer.

Business Technology Analyst, Deloitte USI

Jul. 2017 – Jun. 2019

- Analysed Okta system metrics and built processes to improve application availability, predict licence needs, and automate inactive user deactivation.

Military Experience

Academics and military training (2013 – 2014) at the National Defence Academy (India).

Achievements

Project selected for CreateX Startup Lab, Georgia Tech	2022
Star of the Quarter, Quantzig (Awarded by HOD, for project delivery)	2020
Super Star Award, Quantzig (Awarded by VP, for yearly contribution)	2020
Spot Award, Deloitte USI (Awarded by HOD)	2019
Recommended for Officers Training Academy (Indian Army – Engg.), All-India Rank: 13	2018
Recommended for National Defence Academy (Indian Army), All-India Rank: 107 among ~400,000 applicants	2013

Skills & certifications

Programming	Python, R, C#, SQL
ML / AI	Reinforcement Learning, Deep Learning, NLP, Computer Vision
Tools	TensorFlow, PyTorch, scikit-learn, pandas, NumPy, Matplotlib, Seaborn
Other	Git, Linux, Docker, Django, Jupyter, LaTeX
Certification	CITI Human Subjects Protection Certification (Social/Behavioral Research).