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 better understand and improve AI agents adaptability in humanAI collaboration by capturing complex, context-dependent human behaviour.

Journal Publications

[1] A. **Panchal** and V. Pamuru, "Bargaining under breach: Prompt hacking and the integrity of economic LLM negotiations," ***MIS Quarterly****: Special Issue - Artificial Intelligence-Information Assurance Nexus (Review and Revision)*, 2025.

Conference Presentations & Workshops

[2] A. **Panchal** and V. Pamuru, "Bargaining under breach: Prompt hacking and the integrity of economic LLM negotiations," in ***WITS****: (Accepted and to be presented on 19th December 25)*, 2025.

[3] A. **Panchal** 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. *(Stage: R&R)*

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. *(Stage: Experimentation and Analysis)*

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. *(Stage: Pilot study completed)*

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. *(Stage: Accepted at AAAI MARW 25)*

Precipitation Quantification in Cell Culture Media via Vision Transformers *Spring 2024*
Self-led class project with 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).