KISHORE D B — SUPPORTING RESEARCH AND TECHNICAL WORKS INDEX

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Repository Path (PDF): /kishoredb/kishoredb-research/publications/KishoreDB_SupportingWorksIndex.pdf
Markdown Source: /kishoredb/kishoredb-research/publications/KishoreDB_SupportingWorksIndex.md
GitHub: https://github.com/kishoredb/kishoredb-research | **Contact:** kishoredb@gmail.com

Overview
This index provides concise metadata, abstracts, and keywords for selected supporting research, educational, and technical works authored or co-developed by **Kishore D B**. It complements the main publications and projects stored in this repository.
Repository Verification: Each item is timestamped and verifiable via GitHub commit history and repository metadata.

No.	Title / Work	Type	Abstract (summary)	Keywords	GitHub path
1	**Aegis: AI-Driven Innovation and Simulation Framework**	Applied Research Project	Aegis is a modular AI framework integrating explainable ML and simulation workflows. It automates computational experimentation, model comparison, and visualization across distributed cloud environments (Azure/GCP). Adopted internally for R&D prototyping; supports reproducible experiments with generative-AI assisted workflows.	Explainable AI, Simulation, Cloud HPC, Scientific Workflows	/kishoredb/kishoredb-research/projects/aegis-nlp-video
2	**AI-Enhanced Inverse Modeling Framework**	Research Manuscript (in preparation)	Proposes a hybrid neural inverse modeling method incorporating physical constraints to enhance model interpretability and reliability. Introduces uncertainty quantification and explainability metrics to support reproducible computational research.	Inverse Modeling, Explainable AI, Scientific Computing	/kishoredb/kishoredb-research/projects/ai-inverse-modeling *(planned repo)*

3	**CredScore: Explainable Credit Risk Simulation Engine**	Applied AI Prototype	Interpretable credit-scoring engine using SHAP and LIME for feature attribution and visual explanation. Winner of the 2022 Global Hackathon for advancing ethical and explainable AI in financial systems.	Explainability, Trustworthy AI, Data Ethics	/kishoredb/kishoredb-research/projects/credscore
4	**Automated Security Vulnerability Triaging in Multi-Tenant SaaS Environments**	Technical Disclosure / Patent	ML-based prioritization and classification of security vulnerabilities; achieved significant triage-effort reduction. Submitted as Finastra Technical Disclosure #SEC-2023-41 (patent pending).	ML Automation, Security AI, Computational Risk	/kishoredb/kishoredb-research/projects/vulnerability-triage-ai
5	**AI-Driven Fraud Detection Engine**	Applied Computational AI	Hybrid system combining time-series anomaly detection and NLP-based analysis; incorporates explainable visual diagnostics to investigate model behavior and detection rationale.	Hybrid ML, Anomaly Detection, AI Explainability	/kishoredb/kishoredb-research/projects/fraud-detection-ai
6	**DevSecOps Culture for AI and Computational Engineering**	Invited Talk (Global Engineering Summit, 2022)	Outlines practical strategies for embedding observability, ethics, and transparency into AI deployment pipelines, drawing on lessons from production governance in regulated environments.	AI Governance, Observability, Responsible AI	/kishoredb/kishoredb-research/talks/devsecops-culture
7	**Explainable AI for Simulation and Model Transparency**	Conference Presentation (Finastra Innovation Forum, 2023)	Demonstrated techniques to interpret AI models embedded in simulation frameworks; emphasized user-	Model Interpretability, Scientific Visualization, User Trust	/kishoredb/kishoredb-research/talks/finastra-innovation-forum

			centric visualization for decision support.		
8	**Cloud HPC Workflow Simulator**	Technical Prototype	AI-assisted orchestration and automation tool for multi-stage simulation experiments on cloud clusters. Features reproducible logging, auto-summaries, and experiment management.	Cloud HPC, Workflow Automation, Simulation	/kishoredb/kishoredb-research/projects/cloud-hpc-workflow
9	**Explainable AI and Scientific Visualization Curriculum**	Educational Design Project	Postgraduate curriculum connecting explainable AI, simulation, and computational reasoning; implemented with open tools (Python, Azure ML Studio).	STEM Education, Visualization, Pedagogy	/kishoredb/kishoredb-research/projects/education-ai-visualization
10	**Learning Analytics for Computational Thinking**	Educational Research Prototype	Analytic framework to study student reasoning during simulation tasks; integrates learning analytics with AI-based adaptive feedback for assessment and tutoring.	Learning Analytics, Game-Based Learning, Computational Pedagogy	/kishoredb/kishoredb-research/projects/learning-analytics

Statement of Authenticity
All works listed above are authored or co-developed by **Kishore D B**. Source code, supplementary documentation, and technical notes are available in the linked repository paths inside this GitHub repository:
Repository root: https://github.com/kishoredb/kishoredb-research
For private or proprietary materials, documentation is listed as “available upon request” and can be provided under NDA where required.

Repository & Version Info

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GitHub Repository: https://github.com/kishoredb/kishoredb-research

Authenticated Repository Commit: main@<commit-sha>