Yuganshi Agrawal

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Education

University of Michigan — Ann Arbor, MI
Master's in Data Science | GPA: 4.0/4.0 — Aug 2025 – May 2027
Coursework: Applied ML(A+), NLP(A+), Probability and Distribution, Statistical ML, Statistical Inference

Malaviya National Institute of Technology — Jaipur, India
Bachelor's in Computer Science and Engineering | GPA: 3.72/4.0 — Dec 2020 – May 2024
Coursework: Machine Learning, Neural Networks, AI & Expert Systems, DSA, OS, DBMS, Software Engineering

Experience

Wells Fargo — India
Software Engineer L1 — Aug 2024 – Aug 2025
- Enhanced 3 business applications (Commercial Mortgage Evaluation Tool, Expense Reimbursement Management System, Real Estate Loan Management System) by integrating 90+ Power BI reports via C# and SQL APIs improving analytics
- Collaborated in agile teams across sprint cycles to design, test & deploy production-grade full-stack C#/React platforms, delivering 5+ stable releases with product owners while contributing to automated testing and CI-driven workflows
- Used LLM tools for fast development, debugging, and prototyping to improve code quality and accelerate problem-solving

Software Engineer — May 2023 – July 2023
- Modeled an ETL pipeline for 50 years of stock data and engineered technical indicators (EMA, RSI) for modeling
- Applied feature engineering with PCA and trained SVM, LSTM, and ARIMA models, achieving 4% MAPE after tuning
- Developed a full-stack forecasting app (Node.js, React, Flask, MongoDB) with interactive 1 day to 6-month predictions

IntelloHire - AI Startup — India
Software Engineer — Jan 2024 – July 2024
- Implemented an AI resume parser using NLP, NER, and document segmentation, improving extraction accuracy by 5%
- Reduced manual recruiter effort through similarity-based candidate scoring using spaCy and Sentence-BERT embeddings

Projects

CRISP: Contextual Risk-Invariant Stock Prediction Engine
- Built a stock prediction engine using Invariant Risk Minimization to improve generalization across market shifts where standard ERM fails; achieved 30%+ improvement over ERM baselines' accuracy on OOD testing by suppressing spurious correlations under shifts and ensuring the model learns causal features relevant to prediction
- Designed multiple environment (time, volatility-based, trend-regime) to test model robustness under realistic market shifts

PeerMatch: Peer Recommendation with GNN
- Built a GraphSAGE-based peer recommendation system modeling relational student behavior, achieving 98.4% ROC-AUC
- Formulated a complementarity-based scoring method with skill diversity, engagement patterns, and temporal alignment
- Integrated focal loss, hard negative mining & temperature scaling to address 15% class imbalance and calibrate predictions

Measuring Narrative Surprise with LLMs
- Designed an end-to-end NLP pipeline that incrementally prompts GPT-5 to predict future narrative events and identifies plot twists by combining embedding-based semantic divergence with RoBERTa-MNLI contradiction detection
- Processed 200+ stories with chunking and recap pipelines, achieving strong alignment with human-annotated twist events

Recommendation System using Hybrid Optimization
- Built an end-to-end crop recommendation ML pipeline using Landsat-8 satellite imagery and county-level agricultural data, extracting soil and climate features to support precision farming in rural India
- Engineered a nature-based hybrid optimization algorithm (EEFO-CPO) to fine-tune ANN weights, achieving 96% accuracy for seasonal crops and outperforming SVM, Random Forest, and other baselines

Technical Skills

Programming Languages: Python, SQL (MySQL, PL/SQL), JavaScript, C/C++, C#, HTML/CSS

Frameworks & Tools: Power BI, APIs, Git, .NET, SLURM, WandB, PyTorch, scikit-learn, spaCy, Sentence-BERT, React, Node.js, Flask, xUnit, RestAPI, Numpy, Pandas, Matplotlib, Seaborn, Pytest, Moq, LaTeX, Hadoop, Jira, Harness, CI/CD, Tableau

Data and ML Concepts: Data Science, Supervised & Unsupervised Learning, Deep Learning, Neural Networks, NLP, LLMs, Recommender Systems, Feature Engineering, Model Evaluation, Hyperparameter Tuning, Time Series Forecasting, Statistical Analysis, Data Cleaning & Wrangling, Data Visualization, Transformer Architecture, RAG