Umang Bansal

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Education

Vellore Institute of Technology, B.Tech in Computer Science 2021 - 2025

- CGPA: 8.82/10

Tagore International School, CBSE 2019 - 2021

- Class X: 91% Class XII: 85%

Work Experience

GenAI Developer – Stealth SaaS Project February 2025

- Developed a multi-modal RAG system for a SaaS meeting assistant, enabling semantic search and context-aware responses across PPTs, graphs, tables, and images using LLMs and vector databases.
- Built an agenda-tracking module to align live transcriptions with meeting objectives, improving real-time topic detection.
- Designed pre-meeting automation flows including topic extraction, FAQ generation, and brainstorming agents.

Projects

VOID-AI — Advanced AI Assistant September - November 2024

- Engineered a voice-controlled AI assistant with multi-agent orchestration across six platforms (Spotify, Gmail, etc.), reducing task completion times by 10 minutes daily.
- Implemented a hierarchical memory system using Retrieval-Augmented Generation, achieving 2-minute time savings per session through efficient context retention.
- Developed an anti-procrastination system with contextual reminders, improving task completion rates by 15% in testing.
- Created a personalized content summarization pipeline with 85% user satisfaction rate, reducing average reading time by 35%.
- Planning future enhancements with deep learning and reinforcement learning for improved personalization and task optimization.

Crypto Price Movement Predictor October 2024

- Engineered a cutting-edge cryptocurrency price prediction system, utilizing LSTM neural networks, showcasing advanced analytical and predictive modeling capabilities.
- Implemented and compared multiple ML models (Random Forest, LightGBM, LSTM), demonstrating LSTM's superior performance for temporal data.
- Constructed a specialized data preprocessing pipeline for time series financial data, integrating technical indicators and market metrics for optimized model inputs.
- Optimized model architecture through systematic hyperparameter tuning, improving baseline performance by 15%.

Brain-Computer Interface Gaming System January - March 2024

- Designed and implemented a real-time EEG data acquisition system using Bio Amp, ensuring signal stability for uninterrupted brainwave monitoring, driving innovation in neurotechnology.
- Developed and integrated an SVM classifier, achieving 82% precision in differentiating mental states, enabling responsive game play and highlighting advanced analytical and machine learning expertise.
- Innovated a neural signal-based control system for gaming, decreasing response latency by 20% for immersive, hands-free gameplay.
- Authored a comprehensive guide on Instructables in collaboration with the UpsideDown Lab startup, garnering 1,000+ views and positive community engagement to advance BCI gaming.

Technical Skills

Languages & Technologies: Python, Java, SQL, PyTorch, TensorFlow, LangChain, Git, Docker, GCP, Linux, Apache

Domains & Expertise: Machine Learning, Deep Learning, Computer Vision, NLP, Robotics, Arduino, Raspberry Pi, Brain-Computer Interface, Signal Processing

Certifications & Achievements

Google Cloud Digital Leader Certification — Google Cloud (Jan 2024)
Data Science Externship — SmartInternz, customer segmentation and data visualization (Dec 2023)
Deep Learning Specialization — DeepLearning.AI, CNNs, RNNs, optimization techniques (Nov 2023)