BHARAT MISHRA

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Computer Science student specializing in Artificial Intelligence with a foundation in building end-to-end systems. Proven ability to engineer custom Reinforcement Learning environments from scratch and deploy Generative AI using Large Language Models (LLMs) to solve real-world problems involving unstructured data. Eager to apply these skills to tackle challenges in autonomous systems and NLP.

EDUCATION

- **Bachelor of Technology, VIT Bhopal University** | Computer Science Engineering | **CGPA: 9.13**   [2023 - 2027]
- **Grade XII, Vidyatree Modern World School** | Percentage: 95.50   [2021 - 2023]

TECHNICAL SKILLS

- **Programming Languages:** C/C++, Python, Java, SQL
- **AI/ML Libraries & Frameworks:** Tensorflow, Scikit-learn, Pandas, Matplotlib, Numpy, OpenAI Gym.
- **Developer Tools:** GitHub, Git, MySQL, Docker, Streamlit

AI & Machine Learning Projects

- **DepoIndex: AI-Powered Legal Document Indexing**
  - Engineered an AI-powered tool to automate the generation of a table of contents from **unstructured legal deposition PDFs**, significantly reducing the manual effort required for document analysis.
  - Designed an efficient preprocessing pipeline that annotates text with precise page and line numbers, enabling a Large Language Model (Google Gemini) to extract topics with accurate source references.
  - Achieved **95% page-level and 85% line-level accuracy** in topic referencing, delivering a highly reliable tool **built on a leading Foundation Model platform**.
- **Search and Rescue Reinforcement Learning System**
  - Developed autonomous agents using Q-learning and PPO to optimize pathfinding in a dynamic, multi-agent search and rescue simulation.
  - Engineered the simulation **environment and its core physics from scratch**, defining the complete state space, action space, and reward functions to ensure **predictable and safe agent behavior.**
  - Achieved an approximate **90% reduction in target search time** for the trained agent compared to a random-walk baseline.
- **MSMEs E-Commerce Platform with Integrated AI**
  - Engineered an AI-driven fraud detection model using RandomForest classifiers, achieving **87% accuracy** by analyzing transaction patterns, IP geolocation, and billing/shipping address mismatches
  - Built a sales forecasting model using a TensorFlow neural network to predict inventory needs, achieving **90% accuracy** by analyzing historical monthly sales data to identify seasonal shifts.
- **CyberSecurity AI Web Extension for Child Safety**
  - Developed an AI-powered browser extension that detected malicious links with **85% accuracy** as part of a competitive, **state-level Police CyberSecurity Hackathon** focused on child safety.

Achievements & Certifications

- **Global Rank 8261, TCS CodeVita (2024):** Advanced to the penultimate round in a global coding competition by solving complex algorithmic problems.
- **Generative AI Training (Kaggle/Google):** Completed an intensive program on LLMs, prompt engineering, and transformer architecture, earning a Kaggle-issued badge for proficiency.
- **Google Certified: Computer Networking:** Earned the "Bits and Bytes of Computer Networking" certification issued by Google.

Leadership and Volunteering

- **PR and Outreach Lead, Startup Club:** Secured industry partnerships for guest lectures and sponsorships by coordinating directly with C-suite executives (CEOs, CFOs) and other industry professionals.
- **Volunteer, Pahal Foundation:** Taught basic mathematics and fundamental elementary education to underprivileged children.