Ronit Amar Bhatia

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Education

Cornell University Aug 2024 – May 2025
Master of Engineering in Engineering Management

University of California, Davis Sept 2020 – June 2024
Bachelor of Science in Computer Science
Minor in Technology Management

Experience

Software Engineer Intern, Gallox Semiconductors (Remote) Nov 2024 – Jan 2025
- Developed automation solutions for power device characterization, improving testing efficiency.
- Designed a real-time data visualization tool for test measurements using Python, improving debugging efficiency during lab evaluations.

Student Research Assistant, Cornell CALS Aug 2024 – Dec 2024
- Utilized machine learning techniques (k-means clustering, regression models) to analyze crop-based GHG emissions.
- Developed Python scripts to streamline the preprocessing of geospatial crop emissions data, improving consistency across datasets.
- Implemented a clustering algorithm to group crops by emission intensity, enabling more targeted mitigation strategies.

Software Developer Intern, ColentAI (Remote) Jan 2024 – Mar 2024
- Enhanced generative AI model performance through fine-tuning and hyperparameter optimization.
- Conducted API research and integration to enhance data gathering and model training.
- Developed an automated skill taxonomy generator using natural language processing and keyword extraction.

Data Analyst Intern, Cardinality-AI (Remote) June 2021 – Sept 2021
- Ingested and transformed structured data using SQL to support machine learning pipelines.
- Performed feature engineering and data validation to improve model response time by 5%.
- Leveraged MATLAB to identify and interpret trend patterns in complex data sets.

Projects

Excellensight: AI-Powered Feedback Analyzer, Cornell University [GitHub] Mar 2025 – May 2025
- Built a custom CNN-BiLSTM-Attention model to classify ChatGPT user reviews and generate insight summaries without using large language models.
- Developed a full NLP pipeline: preprocessing, model training, evaluation, and automated Markdown/HTML report generation.
- Achieved over 98% validation accuracy on 10K+ reviews; reports include key trend summaries and visualizations.

Taskify: AI-Powered Task-to-Team Member Matching, Cornell University [GitHub] Mar 2025 – May 2025
- Built a custom Transformer model combining embeddings and structured features to predict task-member compatibility with 89.6% accuracy.
- Generated and labeled a synthetic dataset (40K+ samples) using sentence-transformers and feature engineering.
- Deployed a real-time Streamlit app to recommend top-ranked teammates with confidence scores and reasoning logic.

GDELT AI Monitoring System, Cornell University [GitHub] Mar 2025 – Apr 2025
- Built ETL pipeline for real-time GDELT data, storing embeddings in ChromaDB for efficient vector retrieval.
- Integrated Llama 3B model using Ollama for summarization and investment recommendations based on geopolitics.

Rock Paper Scissors CNN on ESP32S3, Cornell University Feb 2025 – Mar 2025
- Trained and deployed a lightweight CNN on-device (ESP32S3) using MicroPython and TinyMaix for real-time gesture recognition.
- Achieved 56%+ accuracy on-device across labeled test images with live demo performance.

Technical Skills

Programming Languages: Python, C/C++, SQL, Go, JavaScript, HTML, CSS, MicroPython, Lisp, Prolog

Machine Learning & AI Tools: TensorFlow, PyTorch, Scikit-learn, LangChain, Ollama, PydanticAI, Unsloth, Windsurf

Tools & DevOps: Git, GitHub, Docker, VSCode, MATLAB, JIRA, PowerBI

Cloud Platforms: AWS, Google Cloud Platform (GCP)