

Ronit Amar Bhatia

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Education

Cornell University Master of Engineering in Engineering Management	Aug 2024 – May 2025
University of California, Davis Bachelor of Science in Computer Science Minor in Technology Management	Sept 2020 – June 2024

Experience

Machine Learning Engineer Intern , QAlienAI (Remote)	Oct 2025 – Present
• Developing an LLM-driven compliance system using semantic similarity and rule-based checks for regulatory review.	
• Building multimodal pipelines with AWS Bedrock and AssemblyAI, improving OCR and ASR accuracy by 15%.	
• Implementing pgvector semantic search with optimized embedding generation and hybrid retrieval for regulatory content.	
Software Engineer Intern , Gallox Semiconductors (Remote)	Nov 2024 – Jan 2025
• Developed automation solutions for power device characterization, improving testing efficiency.	
• Engineered a real-time data visualization system in Python, accelerating debugging and analysis during lab evaluations.	
• Developed Python APIs to interface with lab instruments, automating data acquisition and control during device testing.	
Student Research Assistant , Cornell CALS	Aug 2024 – Dec 2024
• Utilized machine learning techniques (k-means clustering, regression models) to analyze crop-based GHG emissions.	
• Built Python data pipelines to preprocess geospatial crop emissions data, enhancing feature consistency for ML models.	
• Implemented a clustering algorithm to group crops by emission intensity, enabling more targeted mitigation strategies.	
Software Developer Intern , CoalentAI (Remote)	Jan 2024 – Mar 2024
• Enhanced generative AI model performance through targeted fine-tuning and hyperparameter optimization.	
• Integrated external APIs to streamline data acquisition and improve training efficiency for AI models.	
• Developed an automated skill taxonomy generator leveraging NLP and keyword extraction techniques.	

Projects

UnClogAI: AI-Powered Workflow Bottleneck Detector [GitHub]	Aug 2025 – Sept 2025
• Developed an AI workflow automation tool using graph analytics to detect bottlenecks and improve process efficiency.	
• Designed a multi-agent system with LangGraph and Hugging Face LLMs for predictive insights and risk assessment.	
• Optimized data pipelines and graph computations to enable efficient, real-time workflow analysis at scale.	
Startup Planner Agent: AI-Powered Strategic Planning Tool [GitHub]	June 2025 – June 2025
• Designed a modular multi-agent architecture using Python to orchestrate local LLM tasks with LLaMA 3 via Ollama.	
• Built agent-based workflows to automate startup analysis, including market research, SWOT, and MVP planning.	
• Delivered an interactive web app with exportable outputs, enabling offline strategic planning and stakeholder readiness.	
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.	
• Built a full NLP pipeline covering preprocessing, training, evaluation, and automated Markdown/HTML reporting.	
• Achieved over 98% validation accuracy on 10K+ reviews; reports include key trend summaries and visualizations.	
Taskify: AI-Powered Task-to-Team Member Matching [GitHub]	Mar 2025 – May 2025
• Built a Transformer model fusing embeddings and structured data to predict task-member fit 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.	

Technical Skills

Programming Languages: Python, C/C++, SQL, Go, JavaScript, HTML, CSS, Lisp, Prolog, MicroPython
Machine Learning & AI Tools: TensorFlow, PyTorch, Scikit-learn, LangChain, Ollama, LangFuse, LangGraph, Strands Agents, AWS Bedrock, AssemblyAI, Resend
Tools & DevOps: Next.js, React, Node.js, Supabase, Clerk, TanStack Query, Docker, GitHub, GitHub Actions, VSCode, MATLAB, JIRA, Power BI
Cloud Platforms: Vercel, AWS (S3, EC2, Lambda, SageMaker, RDS, DynamoDB), GCP (BigQuery, Vertex AI, Cloud Run)