

Nihaarika Agarwal
Machine Learning/ AI Engineer

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SUMMARY

Engineer with 2 years' experience seeking co-op/ full time opportunity, skilled in ML, RAG and VectorDB augmented LLMs.

EDUCATION

Master of Science: Computer Science (Specialization in Artificial Intelligence)	08/2026 (Expected)
Arizona State University, Tempe, AZ	4.0/4.0

GPA

Courses: Planning/Learning in AI, Human-ML Interaction, Cloud Computing, Natural Language Processing , Data Intensive Systems for ML.

Recipient of Graduate Engineering fellowship.

Bachelor of Technology: Major: Electrical and Electronics, Minor: Computational Intelligence.	07/2022
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Manipal Institute of Technology, Manipal, India	3.27/4.0
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GPA

TECHNICAL SKILLS

Programming Languages: Python, C++, Java, VB Script, SQL

Tools/ Libraries: PyTorch, Tensorflow, Scikit-learn, Ui-Path, AWS, JIRA, Langchain, Matlab, Spark, LLAMA, GPT4o, Flask, API

Research domains/Skills: Machine learning, Natural language processing, Generative AI, Robotic process automation, RAG, Deep Learning, Fine-tuning, Neural networks, Generative AI, AI Architecture, Prompt Engineering, Agentic-AI, LLM, VectorDB

PROFESSIONAL EXPERIENCE

Arizona State University	Tempe, US
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Research Assistant	09/2024 -
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Current

- Improved ethical issue detection and informed research design by designing and developing an **LLM**-powered ethical analysis tool.
- Helped researchers identify ethical compliance risks against multiple ethical frameworks, through the custom **Retrieval augmented generation (RAG)** backed by **VectorDB**.
- Analyzing role of LLMs in cybersecurity education, evaluating the impact of student **prompting styles** on generated response.
- Assess LLM accuracy, clarity, and educational effectiveness via **Qualitative analysis** of prompt variations.

Deloitte Touche Tohmatsu	Gurgaon, India
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Consultant	06/2024 – 08/2024
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- **Optimized and standardized** robotics processes for a global consumer healthcare – Kenvue (former Johnson's & Johnson's), enhancing ROI through scalable and robust solutions, adhering to industry best practices.
- Managed & troubleshoot 20+ automated processes, engaging with cross-functional, cross-geography internal & external stakeholders.
- Boosted operational efficiency by 10% by bot-run dashboard using **VB Script** for more than 20+ bots.

Deloitte Touche Tohmatsu	Gurgaon, India
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Analyst	09/2022 –
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05/2024

- Saved \$11M in OPEX & 33% resource optimization through **Robotic Process Automation (RPA)** modules in **UiPath & VB Script**.
- Enhanced supply chain processes through standardization from pre- to post-production stage.
- Recognized with Live the Dot award in October 2023 and June 2023 for impactful process automation work.

Deloitte Touche Tohmatsu	Bangalore, India
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R&IA Intern	01/2022 –
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06/2022

- Reduced turnaround time by 95% & generated ~35 FTE by collaboration on **RPA** business case & **implementation lifecycle**.

Telecom Engineering Centre, Dept of Telecom, Govt of India	New Delhi, India
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Intern	06/2021 –
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08/2021

- Co-authored & published a paper on methodology to evaluate **fairness of algorithms in AI systems**.

PROJECTS

Corrective Retrieval-Augmented Generation (CRAG)	04/2025- 05/2025
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- **Self-correcting RAG** using **LangGraph**, **LangChain**, **HuggingFace**, and **ChromaDB** with **LLM** grading and query rewriting.

Serverless Face-recognition Pipeline	03/2025 – 04/2025
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- Built serverless **AWS Greengrass** face-recognition pipeline using **MTCNN**, **InceptionResNetV1**, **Lambda**, **SQS**, for video frames.

LLM-powered Renewable Energy Assistant

04/2025- 05/2025

- Built a **Streamlit** app using **Flan-T5**, **Qdrant**, and **LangChain** for **time-series** solar analysis and policy Q&A via **RAG**.

PUBLICATIONS

- Agarwal.N, Vijayalaxmi, (2023), Covid19 Impact on Mental Health: Sentiment Analysis using NLTK”, 6th International Conference on Contemporary Computing and Informatics (IC3I), pp. 850-855, doi: <https://doi.org/10.1109/IC3I59117.2023.10398068>.
- Agarwal, A., Agarwal, H. & Agarwal, N. Fairness Score and process standardization: framework for fairness certification in artificial intelligence systems, (2022), AI Ethics, Vol 3, pp. 267–279, doi: <https://doi.org/10.1007/s43681-022-00147-7>.