Devesh Kumar Gola

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Gender: Male
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EDUCATION

BTech in Computer Science and Engineering	Sharda University, Greater Noida	**8.41/10**	2023-Present
Intermediate	Chhauni Children's Academy, Kashipur	7.60/10	2022-2023
High School	Chhauni Children's Academy, Kashipur	7.90/10	2020-2021

SKILLS

Programming Languages: C, C++, Python and SQL
CS Fundamentals: Computer Organisation and Architecture, Operating System, Computer Network, Database Management System and Object Oriented Programming System
Integrated Development Environment: VS Code, Google Colab and Jupyter Notebook
Machine Learning: Data Preprocessing, Exploratory Data Analysis, Computer Vision, Natural Language Processing, Clustering, Predicting Models, Prompt Engineering, Hyperparameter Tuning and Retrieval Augmented Generation
Framework/ Libraries: PyTorch, TensorFlow, Pandas, NumPy, Matplotlib, Scikit-Learn, LangChain and Hugging Face
Software Development: Object Oriented Programming, Data Structure Algorithm, Version Control and ML System Design
Tools: MS Excel, Tableau, Power BI, Git and GitHub
Soft Skills: Problem-solving, Leadership, Interpersonal skills, Creativity, Work ethic, Collaboration and Mentoring

WORK EXPERIENCE

The University of Texas at Austin | Credential — June 2025 – Present (Remote)
Machine Learning Research Intern – **Time Series | Sensor Data | ML**

- Researched time-series classification using **motion sensor data from 15+ real-world datasets. Benchmarked 20+ models, including** Motion Code, Mamba, TimesNet, iTransformer & CrossFormer.
- **Achieved 95.0% top accuracy** (Mamba, PowerCons), **87.5% (Motion Code, multiple datasets)**. Built **TensorBoard-integrated pipeline for real-time model comparison** & analysis. Logged and compared **75+ runs to identify performance trends** and weaknesses.
- Created reproducible **GitHub repo and environment** for all benchmark experiments. Validated setup with **ECG5000 dataset,** ensuring stable logs & reproducible results.

Indian Institute of Technology, Kanpur (IIT Kanpur) | Credential — June 2025 – Present (Remote)
Machine Learning Research Intern – **Python | Project Based Learning | ML**

- Due to a confidentiality agreement **(NDA) signed with IIT Kanpur**, project information cannot be disclosed.

Bhabha Atomic Research Centre (BARC) | Credential — May 2025 – July 2025 (Remote)
Computational Genomics Intern – **Bioinformatics | Genomics Pipelines | Python**

- Processed **10+ GB of genomic data from ENA,** performing quality control (**FastQC**), subsampling (**Seqtk**), and successful alignment with **BWA-MEM using GRCh38 and chr7 reference genomes.**
- Completed a **full mutation detection workflow using GATK and samtools, covering alignment, SAM-to-BAM** conversion, sorting, duplicate marking, read group addition, and **variant calling with Mutect2.**
- Developed and **applied custom k-mer analysis (k = 4 to 8)** on paired-end FASTQ files, **generating 15+ organized output files (.sam, .bam, .vcf, .tsv)**, ensuring reproducible, end-to-end bioinformatics processing.

Birla Institute of Technology and Science, Pilani (BITS Pilani) | Credential — Apr 2025 - Aug 2025 (Remote)
Machine Learning Intern – **Machine Learning | Hyperparameter Tuning | Transfer Learning**

- Conducted **confidential research** on **image analysis of dashboard camera footage from the Indian Driving Dataset**, focusing on cross-domain semantic segmentation and domain adaptation for improved model generalization.

University College Dublin (UCD) | Credential — May 2025 – July 2025 (Remote)
Green AI Research Intern – **Prompt Engineering | NLP | Python | Green AI | ML**

- Engineered a **prompt-based classification pipeline using LLaMA3** and the **PROMISE dataset**, evaluating **150+ unique prompts** across **5 prompt types (zero-shot, few-shot, CoT,** etc.).
- Conducted **30×5 structured prompt experiments**, analyzing trade-offs in **accuracy (up to 23.81%)**, energy use, and emissions using **CodeCarbon.**
- Optimized for sustainability, **achieving carbon emissions as low as 0.0001 kgCO_2eq,** and measured token efficiency and prompt complexity.
- **Automated classification and metadata logging using Python**, **generating 10+ CSVs** and supporting **multi-dimensional analysis** (length, complexity, emissions, etc.).

Delhi Technological University (DTU) | Credential June 2024 - July 2024
Artificial Intelligence Research Intern - **EDA | Clustering | Deep Learning** New Delhi, India

- Conducted EDA on over **100,000 histopathology images** and **9 single-cell RNA sequencing datasets (publicly available)**, utilizing image augmentation techniques for deep learning-based analysis.
- Implemented advanced training techniques, including **GELU activation**, **dropout regularization**, **learning rate scheduling**, **noise injection**, **gradient clipping**, and **custom loss functions** to derive actionable insights from complex biological datasets.
- Enhanced model performance by boosting the model's **average accuracy from 74.8% to 85.7%** through training enhancements, **outperforming previous approaches in 8 out of 9 datasets**.

VOLUNTEERING EXPERIENCE

Dartmouth College | Credential June 2025 –Sept 2025 (Remote)
Collaborator **(HyperTools Project) - Testing | Optimization**

- Spearheaded a complete modernization of the Hypertools library**, boosting performance by 2-100x** through the integration of a Polars backend framework.
- Engineered a comprehensive testing suite from the ground up, writing over **200 automated tests to increase test coverage from 0% to over 95%.**
- Elevated library reliability by increasing core function success from **60% to 100% and implementing logic to handle 100% of identified edge cases gracefully.**

Princeton University | Credential June 2025 –Aug 2025 (Remote)
Project Contributor **(MindEye Project) MedARC - Testing | Benchmarking | Optimization**

- Supported a multi-institution effort for real-time visual decoding by **benchmarking the MindEye pipeline**, quantifying an extremely fast **115 ms** brain-to-image inference speed suitable for real-time applications.
- Analyzed system performance to identify a **21.7s cold-start bottleneck**, with **75%** of the delay attributed to loading the **479-million-parameter** AI model, which reached a peak memory usage of **8.7 GB**.
- Authored a full performance report **detailing system requirements and optimization strategies**, recommending a minimum of **16 GB** of RAM and proposing model-caching to bypass the **16.3s loading delay** on subsequent runs.

University of Waterloo | Credential Apr 2025 –July 2025 (Remote)
Prompt Tester **(YUPP AI Platform) - Prompt Engineering and Testing | Product Analysis**

- Conducted a **2-month** rigorous evaluation of the YUPP platform, testing **500+** AI models from leading providers like OpenAI, Claude, and Gemini across **100** diverse prompts to analyze performance and quality.
- Authored a **comprehensive feedback report** analyzing **7** core platform features (credits, leaderboard, UX) and delivered over **20 actionable recommendations** to improve user engagement and system transparency.
- Helped optimize model selection strategies by identifying top performers (e.g., Claude Opus with a **69.8%** win rate) and performance bottlenecks (>**8s** latency on certain models), **proposing user-facing flags** for models slower than **3s.**

PROJECTS

CarbonPrompt – Evaluating Prompt Engineering and Emissions in LLMs June 2025 – Aug 2025
Project **– Prompt Engineering | CodeCarbon | Sustainable NLP** GitHub

- Developed a **reproducible pipeline** for LLM-based requirement classification using the **PROMISE dataset,** generating **30 prompt variants per type**. Achieved over **23% accuracy** and tracked energy metrics using CodeCarbon, contributing to **sustainable NLP through prompt-efficiency analysis.**

Cross_Domain_Segmentation – Cross-Domain Semantic Segmentation for Road Scenes Apr 2025 – June 2025
Project **– DeepLabV3+ | DAFormer | Cityscapes -> IDD** GitHub

- Built a **robust segmentation pipeline** adapting Cityscapes-trained models to the IDD dataset using **DeepLabV3+ and DAFormer.** Applied feature alignment, style transfer, and **pseudo-label refinement, achieving improved mIoU on unstructured road scenes** with detailed visualizations and class-wise IoU analysis.

RAGBotX - Multi AI RAG Chatbot using Langgraph and AstraDB Jan 2025 - Feb 2025
Project - **LangChain | AstraDB | Groq Cloud** GitHub

- Built an **optimized AI-powered retrieval system** by integrating LangChain, AstraDB, and Wikipedia API, leveraging Gemma-9B-IT LLM with **Groq API for efficient processing** and developing a LangGraph-based search system for **enhanced vector and knowledge retrieval**.

FoodViT - Food Prediction Vision Transformer using PyTorch Nov 2024 - Dec 2024
Project - **PyTorch | Deep Learning | Transformer** GitHub

- Achieved **93.84% accuracy** on the FoodVision Mini dataset by developing a **Vision Transformer (ViT) model**, integrating **EfficientNet-B2** for improved classification, and **optimizing training** using PyTorch and transfer learning from pretrained ViT models.

ResumeLens, Resume Screening using Machine Learning Sept 2024 - Oct 2024
Project - **Machine Learning | EDA | NLP | Flask** GitHub

- Enhanced resume **classification accuracy using Random Forest on over 1.6 million features**. Built a **personalized job recommendation system** and automated the extraction of key candidate details such as name, skills, and education. Built a system to **parse resumes, predict job roles, and recommend matching industries.**

ACHIEVEMENTS

- Solved **500+ DSA problems** across platforms, including 210 on LeetCode and 206 on CodeStudio.
- Achieved **Rank 2 in college on CodeStudio.**
- **Co-founder of** LifeFundies, a mental health startup providing personalized counseling to youth.
- Received **recommendation letters** from **UCD**, **BARC** and **Ivy League institution Dartmouth** for research work.
- Secured **2nd Runner-Up (3rd position)** among **145 teams** at **Cyber Cup 5.0,** Amity University.
- Achieved "**Supercontributor**" status in **Hacktoberfest 2025** by landing over six accepted pull requests, placing among the **first 10,000 global participants** to complete the challenge.
- **Smart India Hackathon (SIH) 2025: Finalist under the Renewable Energy theme** for developing a sustainable AI tool promoting eco-conscious prompting.

HACKATHONS

- **Cyber Cup 5.0, Amity University:** Secured **2nd Runner-Up (3rd Position)** for building an **AI-powered intelligent carpooling system** that optimizes routes to reduce traffic congestion and carbon emissions.
- **Hacktoberfest 2025:** Achieved **Supercontributor** status among the first 10,000 global participants by making 6+ accepted pull requests in open-source projects, contributing code and documentation improvements.
- **Hackstasy Hackathon, SRM Modinagar:** Built a **Vision Transformer (ViT)-based AI model** to classify food images and recommend healthier eating options, demonstrating innovation in AI-driven nutrition awareness.
- **Smart India Hackathon (SIH) 2025:** Advanced to the **final round** under the Renewable/Sustainable Energy theme for developing the **"Carbon Prompting Playground"**, a web tool promoting eco-conscious AI usage through prompt optimization and carbon tracking.
- **GGSIPU USAR Hackathon 2025:** Participated and showcased the **"Carbon Prompting Playground"**, a web-based tool designed to promote eco-conscious AI usage through prompt optimization and real-time carbon tracking.

CERTIFICATES

- Oracle Cloud Infrastructure 2025 Certified Data Science Professional | **Certificate** — Sept 2025 - Oct 2025
- Oracle Cloud Infrastructure 2025 Certified AI Foundations Associate | **Certificate** — Sept 2025 - Oct 2025
- Data Analytics Masters - From Basics to Advanced by Udemy | **Certificate** — Feb 2025 - Mar 2025
- Mathematics – Basics to Advanced for Data Science and GenAI by Udemy | **Certificate** — Jan 2025 - Feb 2025
- Complete Generative AI Course with LangChain and HuggingFace by Udemy | **Certificate** — Jan 2025 - Feb 2025
- PyTorch for Deep Learning Bootcamp by Udemy | **Certificate** — Mar 2024 - Apr 2024
- Machine Learning A-Z: AI and Python by Udemy | **Certificate** — Feb 2024 - Mar 2024