

Devesh Kumar Gola

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SUMMARY

I'm Devesh, an AI researcher and counseling practitioner committed to combining technology and psychology for real-world impact. My experience spans machine learning projects in time-series analysis, sustainable NLP, genomics pipelines, and computer vision at institutions such as UT Austin, BARC, BITS Pilani, and IIT Kanpur. As Co-Founder of Life Fundies, I've delivered counseling sessions and workshops to help students develop emotional resilience and life skills. Through research and entrepreneurship, I aim to create intelligent systems that not only solve complex problems but also support human well-being, self-awareness, and personal growth in meaningful, sustainable ways.

EDUCATION

Sharda University, Greater Noida

Bachelor of Technology (B.Tech) in Computer Science and Engineering

Aug 2023 – Aug 2027

CGPA: 8.41

Activities and Societies:

Entrepreneurship Cell

As part of my academic curriculum, I have studied core computer science subjects, including Data Structures and Algorithms (DSA), Object-Oriented Programming (OOPs), Operating Systems (OS), Computer Networks (CN), Database Management Systems (DBMS), and Computer Organization and Architecture (COA). I have also gained proficiency in programming languages such as Python and C, along with foundational knowledge in data analysis and machine learning. In addition to academics, I am an active member of the Entrepreneurship Cell, where I am working on a startup focused on counseling and life fundamentals for students.

TECHNICAL SKILLS

- **Programming & Software Development:**

Python, C, C++, SQL, Object-Oriented Programming (OOP), Data Structures and Algorithms (DSA), Version Control (Git), Software Design Patterns

- **Machine Learning & AI:**

Data Preprocessing, Exploratory Data Analysis (EDA), Time-Series Analysis, Computer Vision, Natural Language Processing (NLP), Prompt Engineering, Transfer Learning, Hyperparameter Tuning, Domain Adaptation, Generative AI, Retrieval-Augmented Generation (RAG), Model Evaluation & Validation, Sustainable AI (Green AI), Model Deployment, Feature Engineering, Statistical Modeling

- **Frameworks & Libraries:**

PyTorch, TensorFlow, Scikit-Learn, Pandas, NumPy, LangChain, Hugging Face Transformers, OpenCV, Matplotlib, Seaborn

- **Tools & Platforms:**
VS Code, Jupyter Notebook, Google Colab, CodeCarbon, MS Excel, Tableau, Power BI, GitHub, Azure Machine Learning Studio
- **Counseling & Psychology:**
Rational Emotive Behavior Therapy (REBT), Neuro-Linguistic Programming (NLP), Person-Centered Therapy, Narrative Therapy, Mindfulness Practices, Emotional Intelligence, Self-Exploration Protocols, Workshop Design, Conflict Resolution, Active Listening
- **Data & Analytics:**
SQL Querying, Data Visualization, BI Reporting, A/B Testing, Hypothesis Testing, Data Wrangling, ETL Pipelines
- **Soft Skills:**
Problem-Solving, Leadership, Critical Thinking, Creativity, Interpersonal Communication, Emotional Intelligence, Work Ethic, Time Management, Adaptability, Collaboration, Mentoring

WORK EXPERIENCE

ML Research Intern

The University of Texas at Austin

June 2025 – Present (Remote)

- Conducting advanced research on time-series analysis for human activity recognition using Gait datasets and motion sensor signals similar to Apple Watch data, exploring their potential in next-generation wearable health monitoring systems.
- Benchmarking and comparing multiple state-of-the-art machine learning models, systematically evaluating performance metrics including accuracy, F1-score, robustness, and computational efficiency across diverse motion sequences.
- Replicating key experiments from recent high-impact research publications to validate model reproducibility and reliability, contributing to the broader scientific community's understanding of time-series prediction methods.
- Developing preprocessing pipelines and custom feature extraction workflows to enhance the quality and expressiveness of input data, enabling more accurate pattern detection in motion signals.
- Isolating and analyzing datasets to quantitatively and visually compare performance characteristics and failure modes among models like Motion Code, CrossFormer, TimesNet, iTransformer, and the newly released Mamba, supporting model interpretability and transparency.

Psychosocial Research Intern

University of Illinois, Urbana Champaign

Aug 2025 - Present (Remote)

- Developing **qualitative methods** to study collective and radical hope in contexts of elections, political violence, and historical oppression.
- Exploring how hope functions as **healing and collective action** among marginalized groups (e.g., caste, Kashmiri, and Northeast Indian youth).
- Conducting initial team meetings and framing pathways for **lexical and thematic analysis** of hope in individual and group discourse.

Machine Learning Intern

Birla Institute of Technology and Science, Pilani

Apr 2025 – Present (Remote)

- 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.

Machine Learning Researcher

Indian Institute of Technology, Kanpur

June 2025 – Present (Remote)

- Engaged in a confidential research collaboration under NDA, working on an advanced machine learning project with real-world applicability in scalable AI systems.
- Assisting in designing validation protocols to assess model stability and performance across multiple datasets.

Counselling Psychology Research Intern

Indian Institute of Technology, Kharagpur

June 2025 – Aug 2025

- Leading a qualitative research study titled “Effectiveness of Rational Emotive Behavior Therapy (REBT) in Reducing Academic Stress among College Students,” combining counseling psychology and empirical research methods.
- Designing and delivering structured REBT-based intervention sessions to help students identify, challenge, and restructure irrational beliefs contributing to chronic academic stress.
- Planning and conducting pre- and post-intervention interviews to track participants’ cognitive shifts, emotional responses, and coping strategies over time.
- Applying thematic analysis techniques to interpret qualitative data and generate insights into REBT’s role in improving mental health resilience and academic performance.
- Working collaboratively with the research team to document findings and prepare them for potential publication and presentation.

Computational Genomics Intern

Bhabha Atomic Research Centre (BARC)

May 2025 – July 2025 (Remote)

- Leading bioinformatics workflows for large-scale analysis of genomic sequencing data, downloading raw FASTQ files from the European Nucleotide Archive (ENA) for research on genomic pattern identification.
- Performing thorough quality assessments using FastQC and applying subsampling strategies with Seqtk to optimize data handling and computational performance.
- Conducting sequence alignment to reference genomes using BWA-MEM, followed by targeted chromosome-level analysis to extract specific regions of interest.
- Developing robust Python scripts to compute frequency-based statistics for 6-mer DNA patterns, facilitating deeper insights into genetic distributions and variability.
- Gaining extensive hands-on experience in integrating computational biology techniques with data science pipelines for scalable genomics research.

Green AI Research Intern

University College Dublin

May 2025 – July 2025 (Remote)

- Conducted in-depth research on the energy efficiency of prompt engineering strategies applied to large language models (LLMs) used in software requirements classification tasks.
- Designed and executed controlled experiments comparing prompt variants across multiple dimensions—length, linguistic complexity, and clarity—using models such as LLaMA, Mistral, and Ollama.
- Quantified trade-offs between performance metrics (accuracy, precision, recall, F1-score) and carbon emissions tracked via CodeCarbon, contributing to the field of sustainable NLP.
- Authored detailed reports summarizing findings, with recommendations on prompt design strategies that balance model performance with environmental impact.
- Collaborated closely with faculty researchers to explore future directions in low-carbon AI development.

AI Research Intern

Delhi Technological University (Formerly DCE)

June 2024 – July 2024 (*New Delhi*)

- Researched deep learning approaches for cancer cell detection by integrating histopathology image analysis with RNA sequencing data.
- Conducted exploratory data analysis (EDA) on over 1 million medical images to identify key visual and statistical patterns supporting classification tasks.
- Applied data augmentation techniques and preprocessing workflows to improve model training efficiency and robustness.
- Fine-tuned unsupervised clustering algorithms and conducted hyperparameter optimization to enhance predictive performance.
- Combined biomedical knowledge with advanced machine learning methods to contribute to improved diagnostic systems in healthcare.

VOLUNTEERING EXPERIENCE

Project Contributor – MindEye

Princeton University

June 2025 – Present

- Contributing to the Real-Time MindEye project—a cutting-edge neuroimaging initiative aimed at decoding visual perception from fMRI data in real time.
- Collaborating with researchers from Princeton, CSHL, and the University of Minnesota to replicate MindEye2 results using 3T MRI scans.
- Developing and refining general linear model (GLM) estimation pipelines compatible with real-time vision-language processing constraints.
- Fine-tuning pretrained vision-language models on HuggingFace datasets to support neural decoding workflows.
- Advancing research toward the world's first real-time reconstruction of visual experiences directly from brain activity.

Collaborator – HyperTools Project

Dartmouth College

June 2025 – Present

- Contributing to the modernization and maintenance of HyperTools, an open-source Python library for visualizing and exploring high-dimensional data.
- Refactoring and updating core modules to ensure compatibility across modern NumPy, pandas, matplotlib, and plotly versions.
- Resolving legacy API inconsistencies, implementing continuous integration pipelines, and improving documentation clarity.
- Standardizing core functions and enhancing usability to create a smoother experience for data science practitioners.
- Working closely with the Context Lab at Dartmouth College to support the long-term sustainability and growth of the project.

Prompt Tester

University of Waterloo

Apr 2025 – July 2025

- Contributed as a trusted early tester for the YUPP AI platform, enabling comparisons across multiple large language models (LLMs) like ChatGPT, Claude, and Gemini.
- Evaluated over 100 prompts on performance, coherence, latency, and response quality across different LLMs.

- Provided structured feedback on leaderboard logic, credit-based reward systems, and overall user experience (UI/UX).
- Suggested improvements to ranking stability, model selection workflows, and usability features to drive transparency and engagement.
- Helped refine the platform's roadmap through detailed analysis of prompt-level performance and user interactions.

Collaborative Resonance Volunteer

Dartmouth College

June 2025 – July 2025

- Participated in a reflective volunteer initiative centered on mindset transformation, personal development, and energy-based self-awareness practices.
- Engaged in deep discussions exploring motivation, procrastination, self-sabotage, and personal growth frameworks.
- Shared and implemented a personalized 10-Point Self-Exploration Protocol to cultivate clarity, discipline, and emotional alignment.
- Collaborated with experienced practitioners to co-design practices rooted in emotional intelligence, mindfulness, and intentional reflection.
- Supported a culture of shared learning and self-transformation through weekly sessions and guided introspection exercises.

STARTUP EXPERIENCE

Co-Founder & Counseling Practitioner

LifeFundies

Jan 2025 – Present

- Launched a mental wellness startup dedicated to providing personalized life and relationship counseling for students and young professionals.
- Delivered over 100 individual counseling sessions focused on emotional well-being, decision-making, and self-growth.
- Designed and facilitated interactive workshops covering topics such as emotional intelligence, life skills development, stress management, and self-awareness.
- Applied evidence-based therapeutic approaches including Rational Emotive Behavior Therapy (REBT), person-centered counseling, and mindfulness techniques.
- Helped build a growing community and platform that empowers young individuals to navigate academic, personal, and relational challenges confidently.

PROJECTS

CarbonPrompt – Evaluating Prompt Engineering and Emissions in LLMs

June 2025 – July 2025

- Designed and implemented a reproducible pipeline for LLM-based software requirements classification using the PROMISE dataset.
- Developed and tested 30+ prompt variants, achieving over 90% classification accuracy.
- Measured energy consumption and carbon emissions using CodeCarbon to advance sustainable NLP practices.

Cross_Domain_Segmentation – Domain Adaptation for Road Scenes

April 2025 – Present

- Built an advanced segmentation pipeline adapting Cityscapes-trained models to the Indian Driving Dataset (IDD).
- Applied DAFormer with pseudo-label refinement, feature alignment, and style transfer, significantly improving mIoU on unstructured road scenes.
- Conducted detailed visualization and class-wise IoU analysis.

RAGBotX – Multi-AI Retrieval-Augmented Generation Chatbot

Jan 2025 – Feb 2025

- Integrated LangChain, AstraDB, and Wikipedia API to build an optimized retrieval system.
- Leveraged Groq API and Gemma-9B-IT LLM for efficient query resolution and knowledge retrieval.
- Created a LangGraph-based search architecture for enhanced vector and document retrieval.

FoodViT – Vision Transformer for Food Prediction

Nov 2024 – Dec 2024

- Developed a Vision Transformer model using PyTorch and EfficientNet-B2 to classify food images.
- Achieved 93.84% accuracy on the FoodVision Mini dataset through transfer learning and model fine-tuning.

ResumeLens – ML-powered Resume Screening

Sept 2024 – Oct 2024

- Built a machine learning pipeline to classify resumes and recommend jobs.
- Engineered features from 1.6M attributes, used Random Forest classifiers, and integrated NLP for parsing.
- Deployed a Flask web interface to display extracted resume insights.

ACHIEVEMENTS

- **Recommendation Letter from UCD:** Recognized for impactful research in Green AI and prompt efficiency by University College Dublin professor.
- Solved **492+ DSA problems** across LeetCode and CodeStudio.
- Achieved **Rank 2** in my college on CodeStudio platform.
- Co-founded **LifeFundies**, a startup providing life counseling and self-growth coaching to students and professionals.

CERTIFICATES

- **Complete Personal Transformation Masterclass**

Learned goal setting, procrastination management, solid mindset building, productivity, meditation, confidence, nutrition, persuasion, and book summaries on personal development, business, relationships, and health.

- **Dark Psychology**

Explored manipulation, NLP, personality types, emotional triggers, trust issues, anger management, and the psychology behind influence and persuasion.

- **Mathematics: Basics to Advanced for Data Science and GenAI**

Built strong mathematical foundations for advanced data science and generative AI applications.

- **Complete Generative AI Course with LangChain and Hugging Face**

Developed skills in building advanced generative AI pipelines using LangChain and Hugging Face Transformers.

- **Data Analytics Masters – From Basics to Advanced**

Covered complete data analytics workflows including data preprocessing, visualization, and predictive modeling.

- **Complete Personal Development Course – 22 Courses in 1**

Learned communication, REBT, NLP, Zen teachings, stress management, coping skills, leadership, motivation, parenting, and networking.

- **Diploma Training Course in Modern Applied Psychology (DiMAP)**
Studied foundational and applied psychology including behavioral, cognitive, humanistic, and psychoanalytical frameworks.
- **PyTorch for Deep Learning Bootcamp**
Gained practical skills in building and optimizing deep learning models with PyTorch.
- **Machine Learning A-Z: AI and Python**
Completed comprehensive training in machine learning concepts, model deployment, and Python workflows.
- **Counseling Skills Certificate Course (Beginner to Advanced)**
Acquired counseling techniques including active listening, rapport building, and therapeutic frameworks through role-plays and case studies.