

Karandeep Singh, B.Tech (IT)

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EDUCATION

NIT Jalandhar | B.Tech In Information Technology

June 2022 - Present

RESEARCH INTERESTS

Medical Image Analysis , Computer Vision , Generative Models, Diffusion Models , Trustworthy AI in Healthcare , Transformers , Agentic AI

AWARDS

Research Intern Stipend (\$400)

May 2025 - July 2025

[Multiple Hackathon Participation](#)

2022 - Present

NIT Jalandhar

Utkansh - Cultural Event Organiser Award

April 2025

Best Hostel Secretary (\$100)

June 2023

Digital Content Strategist Stipend (\$385)

December 2025

Google Cloud (GDGC Lead Program) Funding (\$1000)

September 2025

National Hackathon Winner (HackCBS 7.0) (\$500)

November 2024

PUBLICATIONS, PROJECTS, AND ARTICLES

IEEE EMBC'25 | Peer-Reviewed Publication

July 2025

Title: Boosting Skin lesion detection using Class Expert DCGAN Framework

Karandeep Singh*; Nitesh Bharot; Priyanka Verma; Nisha Chaurasia; John G. Breslin

DeepKernels AI | Full-Stack Website

Present

Stack: Next.js, TailwindCSS, LangGraph, FastAPI, Redis, Supabase (SQL), GCP Cloud Run

Tools: LangChain, OpenAI SDK, Anthropic SDK, LangCache

Developed a platform for AI news, blogs, podcasts, and community discussions . Built a LangGraph-based News Agent chatbot to fetch, summarize, and contextualize recent AI research.

Implemented semantic caching using Redis and LangCache to reduce inference cost and latency

Deployed scalable backend services on GCP Cloud Run with load balancing

Link : deepkernels.com

Medium Article | Author

September 2025

Title: What Is an HTTP Server? Understanding the Core Jargon and Concepts

Karandeep Singh

Applied AI Research Project | National Hackathon Winner(HackCBS 7.0)

Nov 2024

Title: Aurera - Skin Disease Detection using Multi-Modal IoMT and Electronic Health Records

Developed a governance-driven healthcare platform for skin disease detection using Class Expert DCGAN Framework and Tab Transformer for EHR analysis. • Integrated a TON Blockchain marketplace using smart contracts to enforce ethical management, consent-based sharing, and transparent buying of sensitive skin image data , ensuring data ownership and traceability.

Team: Karandeep Singh*(Team Lead) , Arnav Anand , Saurabh Sahu , Ekaspreet Singh

Month Of Learning - ML Bootcamp | Primary Presenter

January 2024

Title: Basics of ML and Hands-on with Scikit-Learn and Tensorflow

Delivered hands-on sessions covering ML fundamentals, model training, and evaluation. Conducted live demos using Scikit-Learn and TensorFlow to an audience of 50+ sophomores.

Karandeep Singh* , Laxay , Anuj Soni

WORK EXPERIENCE

Lead

September 2024 - September 2025

Google Developer's Group on Campus | NIT Jalandhar

Led technical sessions, coding events, and peer-learning initiatives. Mentored junior students in programming, data structures, and applied AI concepts. Coordinated with faculty and student teams to promote technical culture within the department

Skills: Leadership, Technical Mentoring, Team Management, Programming Fundamental

Research Intern

June 2024 - August 2024

University of Galway | Ireland

Conducted applied research on GAN-based architectures (DCGAN, StyleGAN variants) for high-resolution skin lesion image synthesis and classification. Built and evaluated deep learning classification pipelines, improving skin lesion detection accuracy through data augmentation and model optimization. Worked with large-scale healthcare and IoMT datasets, performing feature engineering and statistical analysis. Collaborated with researchers to design experiments, analyze results, and present findings

Skills: Python, PyTorch, TensorFlow, GANs, Medical Imaging, Data Analysis, Research Methodology

Digital Content Strategist

November 2024 - December 2024

BlackBox AI (Remote)

Designed and executed **technical content strategies** focused on AI, ML tools, and emerging technologies. Created educational content and learning material to improve user engagement and platform visibility. Analyzed engagement metrics to refine content direction and improve reach

Skills: Technical Writing, Communication, Content Strategy, Analytics, Remote Collaboration

VOLUNTEER EXPERIENCE

Organiser | HackMOL 6.0 (Hackathon)

March 2025

NIT Jalandhar

I organized the Largest North India Hackathon on our Campus with participation of 3000+ participants from all over India. Managed to pull \$10000 sponsorships and numerous workshops and credits for the participants to learn and connect.

Organiser - GDG Hackathon

January 2025

Virtual

Organized a large-scale virtual hackathon with participants from 10+ Universities, coordinating participants, mentors, and judges. I designed problem statements and evaluation criteria focused on real-world tech challenges and also provided technical support and ensured smooth event execution.

Raised sponsorship of \$1500 by reaching out to companies and building connections.

Head of IT Society (Cybernavts)

June 2024 - July 2025

Information Technology Department | NIT Jalandhar

I led the departmental IT society . Mentored junior students in programming, data structures, and applied AI concepts and helped them start with their Machine Learning Journey. Coordinated with faculty and student teams to promote technical culture within the department

Dorm Secretary

November 2022 - July 2023

Boys Dorm - 1 | NIT Jalandhar