

Kunal Kumar Pant

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AI/ML Research Engineer working on building systems that translate ideas into high-impact, practical solutions. Experienced in developing robust models and reproducible pipelines across environmental, healthcare, and financial domains, with an emphasis on mathematically grounded, efficient, and responsible AI.

Research Interests: Data-efficient Machine Learning (ML), Neuro-Inspired Computing, Ethical AI, Philosophy of AI, Applied & Agentic AI

EDUCATION

Amrita Vishwa Vidyapeetham, Amritapuri Campus

Oct 2022 – June 2026

B.Tech, [Electronics and Communication Engineering](#)

First Class with Distinction | CGPA: 8.69/10

Relevant Coursework: Linear Algebra, Problem Solving and Algorithmic Thinking, Optimisation Techniques, Calculus, Python, Data Structures & Algorithms, C, Probability & Random Processes, Signal Processing, Biomedical Engineering

IELTS (Academic) — **8.0/9.0** [L: 8, R: 9, W: 7, S: 8]

PUBLICATIONS

JOURNAL PUBLICATIONS

Advancing Forest Fires Classification using Neurochaos Learning — *First Author* [[arXiv preprint](#)]
(*Revised manuscript under review at a Q1 peer-reviewed journal*)

Co-authors: Pant, Kunal Kumar; Ajai A S, Remya; Nagaraj, Nithin

- Built and benchmarked **NL variants (ChaosNet, RHNL)** and ML variants across Algerian, Canadian, and Portuguese forest-fire datasets under high and low-sample training regimes.
- Added **random, temporal, and spatial evaluation protocols** with seed-wise robustness and bootstrap 95% confidence intervals to evaluate and quantify generalization more rigorously.
- Demonstrated strong low-data performance, including **F1 = 1.00 on AFF**, **precision = 0.90 on CFF**, and up to **1,140× faster training** for ChaosNet than ensemble baselines.

CONFERENCE PUBLICATIONS

ChaosNet for Few-Shot Medical Image Classification in Low-Resource Settings — *First Author*
(*Lecture Notes in Networks and Systems (Springer), ICICT'26, London, UK*)

Co-authors: Pant, Kunal Kumar; Gopalan, Sundararaman

- Implemented and evaluated ChaosNet across 2-D MNIST datasets under a LSTR (Low Sample Training Regime), where ChaosNet showed **consistent performance advantages** over ML baselines such as SVM, RF, LR and DT.
- Showed higher macro-F1 stability than ML baseline models, achieving **0.50+ macro-F1** despite class imbalance and noise.

RESEARCH EXPERIENCE

NIAS - National Institute of Advanced Studies, IISc Bengaluru campus

Remote (India)

Guide: Dr. Nithin Nagaraj, Prof. & Head, Complex Studies Programme, NIAS

Aug 2024 – April 2025

Research Intern – ML

- Developed and analysed NL pipelines (ChaosNet, RHNL variants), focusing on how chaos-based, brain-inspired dynamics act as inductive biases for learning from limited, noisy environmental data.
- Investigated parameter sensitivity, stability, and robustness of neuro-inspired models across different training regimes, linking model behaviour to underlying dynamical properties.
- Reproduced AISMR, NINO, and IOD-based monsoon forecasting workflows to study temporal structure and nonlinear dependencies in climate data, and led core experiments for the Forest-Fires research.

WORK EXPERIENCE

NeuroEVE

Founder: Sude Umac

University of Cambridge, London, UK

July 2026 - Now

Member of Technical Team

- We are a startup currently at the POC stage and are supported by the **University of Cambridge** and **Cambridge NeuroWorks**.
- Working on In-Silico Epilepsy simulation for detection and forecasting of Seizures.

WeKan Enterprise Solutions

Reporting Manager: Mr. Pablo Jimenez, Founder & CEO

Bengaluru, India

May 2025 – Nov 2025

ML & Product Innovation Intern

- Designed an end-to-end pipeline for **AI-driven recruitment** including semantic parsing, candidate scoring, and automated question generation using LLMs.
- Developed the **Corporate Loan Origination System (CLOS) MVP** with Tesseract OCR-based ingestion, financial-ratio computation, validation logic, and risk summarisation by leveraging LLMs.
- Documented workflow logic, data schemas, and technology landscape mapping to ensure reproducibility, maintainability and innovation across rapid POC development.

PERSONAL PROJECTS

TOBI

[\[GitHub\]](#)

Tonally Obligated Bespoke Interface

- An autonomous outreach agent and the first component of a broader AI "digital intern" ecosystem for founders, researchers, and knowledge workers.
- Implemented modular pipelines for **web scraping, information extraction, contextual reasoning, and personalization** using Python, Streamlit, BeautifulSoup and open-source LLMs.
- Enabled end-to-end workflow automation from prospect discovery to **pre-populated Gmail drafts**, reducing outreach to a human-in-the-loop approval step and establishing reusable infrastructure for future agentic systems.

ResTrack

[\[GitHub\]](#)

AI-Powered Resume Ranking & Job Match Assistant

- Built ResTrack, a smart AI tool that can compare resumes against job descriptions to identify the best candidate fit using semantic similarity techniques.
- Leveraged chunk-based text embeddings, cosine similarity, and resume/job parsing to deliver accurate, explainable match scores.

ACHIEVEMENTS

Selected Fellow @ [Thinking About Thinking](#)

June 2026

- Interdisciplinary AI fellowship involving technical and policy discussions with leading researchers, founders, and practitioners.

OxML Trainee - University of Oxford, AI for Global Goals

May 2025

- Selected and awarded a 50% scholarship as one of 300+ trainees worldwide for the prestigious OxML 2025 program.

Top 10% (INDIA) in the AWS DeepRacer Student Nationals

July 2023

- Trained an AWS DeepRacer car using Reinforcement Learning in a simulated 3D environment.

SKILLS & CERTIFICATIONS

Programming Languages: Python, C, Assembly

Technical Skills: Chaos-Based Modelling, Mathematical & Data-Efficient Modelling, Statistical & Deep Learning Methods, Reinforcement Learning, Speech Processing, Applied Generative and Agentic AI Systems

Tools: TensorFlow, Scikit-Learn, PyTorch, NumPy/Pandas, FastAPI, Docker, Git, LaTeX, MATLAB, LangChain,

Workshops Attended: RoboML (IEEE), Robotics (HutLabs), Gen AI & Path Planning (HutLabs)

Certifications:

- [AI Infrastructure and Operations Fundamentals](#) – (NVIDIA)
- [Advanced Learning Algorithms](#) - (Stanford & DeepLearning.AI)