

Dhruv Kamalesh Kumar

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AI grad seeking GenAI role. Skilled in ML, CV, NLP, Python, with 3+ years in cross-platform mobile app development

EDUCATION

Northeastern University, Boston, MA

Expected December 2024

Khoury College of Computer Sciences - M.S. in Artificial Intelligence (GPA - 4.0)

- Key Coursework: Pattern Recognition and Computer Vision, Algorithms, Artificial Intelligence, Programming Design Paradigm, Linear Algebra and Probability, Human-Computer Interaction

Acharya Institute of Technology, India

July 2022

Bachelor of Engineering in Computer Science

SKILLS

- **Languages:** C, C++, Java, Python, Dart, SQL
- **Tools:** PyTorch, Tensorflow, Keras, AWS, Langchain, Streamlit, OpenCV, SkLearn, SpaCy, NumPy, Pandas, NLTK, Flutter, Git, REST API, OpenAI
- **Knowledge Areas:** Generative AI, ML, CV, NLP, Deep Learning, LLM, Guardrails, RAG, Prompt Engineering
- **Databases:** MySQL, MongoDB, Firebase

EXPERIENCE

The Burnes Center for Social Change, Boston, MA

January 2024 - Present

Generative AI Product Development Co-op (Gen AI, AWS, RAG) ([Video](#))

- Developed a human-centered, highly scalable [GenAI Sandbox](#) for Massachusetts state employees, enhancing work efficiency and AI technology exploration
- Invented 'Smart Model' technology, optimizing dynamic model selection, reducing operational costs by 40%, and enhancing tool efficiency and user satisfaction
- Provided technical guidance for LLM and RAG to 4 other state projects, identifying loopholes, improving architectures, and saving 15 hours/week for users

WeSource Company, India

May 2021 - September 2022

Machine Learning Intern (Computer Vision, Machine Learning, Flutter)

- Created a robust fraud detection system, achieving an 87.34% accuracy rate and saving the company \$20,000
- Redesigned and developed two cross-platform mobile apps, resulting in a 35% boost in sales
- Enhanced functionality through innovative app design, resulting in a 20% increase in user engagement

Acharya Institutes, India

September 2021 - August 2022

Software Engineering Intern (Flutter)

- Revamped the app's architecture and UI, resulting in a daily user base surge of up to 15,000
- Guided interns, boosting team productivity by 20% and ensuring timely project deliveries
- Managed concurrent bug fixes, requirements, and deployments in Agile, reducing reported bugs by 30% and expediting development

RESEARCH / PROJECTS

[Plastic Usage Classification](#) (Computer Vision) ([Video](#))

March 2023 - April 2023

- Engineered a precise product image classifier for plastic content into four categories using Python and PyTorch
- Achieved a remarkable 30% increase in model performance by combining ResNet50 and an MLP head
- Utilized Optuna for hyperparameter fine-tuning, resulting in an exceptional F1 score of 88.77%

[Real-time 2-D Object Recognition](#) (Computer Vision) ([Video](#))

February 2023 - March 2023

- Formulated and executed a real-time 2D object recognition on a white surface with a top-down camera setup
- Utilized C++ and OpenCV to Threshold, Segment live video feed to compute feature vector of significant regions
- Implemented and compared Nearest Neighbors and K Nearest Neighbors for the classification of over 12 items

[Sequential Sentence Classification in Medical Abstracts](#) (NLP, Deep Learning)

March 2022 - July 2022

- Established a Deep Learning NLP model to sequentially classify sentences into five categories
- Leveraged PubMed 200k RCT dataset for training and validation over the medical research paper abstracts
- Applied transfer learning using pre-trained embeddings for an 85% F1 score

EXTRACURRICULAR ACTIVITIES

Smart India Hackathon | State-Level Winner for Deep Learning Project

August 2019 - September 2019