Harikesh Kushwaha

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COMPUTER VISION ENGINEER

As a recent graduate with a strong foundation in **Machine Learning** and **Computer Vision**. I'm comfortable with reading and implementing **state of the art** deep learning paper. I have also worked on a number of projects involving **Computer Vision** which makes me a perfect fit.

TECHNICAL SKILLS

Languages	:	Python, SQL, C++
Frameworks	:	Scikit-learn, TensorFlow, Keras, Pytorch, Django, Streamlit
Libraries	:	matplotlib, pandas, NumPy, Seaborn, BeautifulSoup, Selenium, OpenCV
Databases	:	MySQL, MongoDB
Dev Tools	:	VS Code, Tableau, Git, GitHub, Jupyter Notebook, Anaconda, AWS, S3
Soft Skills	:	Analytical and Problem-Solving Skills, Good Presentation Skills, Communication Skills

EDUCATION

Indian Institute of Technology Delhi   New Delhi, India
Master of Science in Physics, (8.6 GPA)   *July 2021 – May 2023 (Expected)*

Banaras Hindu University   Varanasi, Uttar Pradesh India
Bachelor of Science in Physics, (8.4 GPA)   *July 2018 – May 2021*

PROJECTS

ReVision   *Python, Numpy, TensorFlow, Pytorch, CLI*   Source Code

- Created a personal project called **ReVision** to learn the concepts and implementation details of groundbreaking **computer vision papers**.
- Utilized popular deep learning frameworks such as **Tensorflow** and **PyTorch** to implement the architectures of seminal papers in deep learning in tasks such as **image classification**, **object detection**, **semantic segmentation**, and **image generation**.
- Developed a deep understanding of the underlying principles of deep learning and computer vision, while improving skills in **Python programming**, **machine learning**, and **deep learning**.

Food Vision   *Python, TensorFlow, Colab, Image Processing, Streamlit, Transfer Learning*   Source Code

- Developed a deep **neural network** using TensorFlow and Keras to classify **101 categories of food**.
- Used a pretrained **EfficientNet** model to extract features from the food images, and then **fine-tuned** the model to improve its accuracy.
- Achieved an accuracy of **80%** on the test set, demonstrating the effectiveness of the approach in addressing complex image recognition problems.

NNet   *Python, Numpy, Neural Network*   Source Code

- Developed a module for arbitrary neural network architecture using **Python** and **NumPy**, implementing layers such as **Dense**, **Dropout**, **Conv2D**, **Flatten**, **Reshape** etc.
- Implemented both the forward and backward pass of the layers, demonstrating proficiency in **backpropagation** and **gradient descent**.
- Created an API similar to **Keras** for seamless integration and implemented various activation functions including **ReLU**, **tanh**, **sigmoid**, and **softmax**.

CERTIFICATIONS

- Deep Learning Specialization (DeepLearning.AI) Certificate
- Machine Learning Specialization (DeepLearning.AI) Certificate
- TensorFlow: Advanced Techniques Specialization (DeepLearning.AI) Certificate
- TensorFlow Developer Certificate in 2022: Zero to Mastery (Udemy) Certificate