

UTKARSH SINHA

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EDUCATION

University of Illinois - Urbana Champaign

Expected Dec 2024

Masters in Computer Science

Courses : Deep Learning for Computer Vision, Artificial Intelligence, Data Mining Principles

SRM Institute of Science and Technology , Kattankulathur (Chennai)

Jul 2019 - May 2023

B.Tech, Computer Science and Engineering

Grade: 9.38 out of 10

EXPERIENCE

Software Development Engineer Intern - CLOUDKAPTAN

Jun 2023 - Jul 2023

Cloudkaptan is an IT Company enabling digital transformation for lending enterprises and technology providers

Skills : Django Rest Framework, Python, AWS Dynamodb, API Documentation

- **Reduced** time spent on manual documentation of REST APIs by **90%** by automating the entire process in django rest framework.
- Designed scripts to migrate JSON data into a structured paradigm utilizing python classes and models, streamlining database interactions.
- Engineered enhancements to DynamoDB database schemas and API views, facilitating autonomous documentation generation for forthcoming APIs while minimizing human intervention.

Academic Intern - NATIONAL UNIVERSITY OF SINGAPORE

Jun 2022 - Jul 2022

Global Academic Internship Programme (GAIP) is a month-long internship offered via a collaboration between NUS and HP Singapore

Skills : Tensorflow, Image Classification, Ensemble learning

- One of 100 students from India to be selected for the internship; **ranked in the top 10** academically, based on weekly coursework
- **Led a group of 6** on a project on '**Breast Tumor Classification**', evaluated by NUS Professors (Dr. Lek , Dr. Tan, and Dr. Amir)
- Achieved a **benchmark accuracy score of 94% and 96%** for a binary classifier using VGG16 and Resnet-50 respectively
- Developed a custom binary classification model with **comparable accuracy of 91%** for the classification of tumor into 2 classes
- Built a **multi classifier** for further classification of tumor cells in to 8 separate classes with approximately **85% accuracy**

Computer Vision Research intern - PMX

Jan 2022 - Jun 2022

South Korean startup focusing on AI-based diagnostics, backed by Intervalue Partners and Korea Alternative Investment, among others

Skills : Pytorch, Image Segmentation, Medical Image analysis, Semantic Segmentation

- Developed a deep learning model for **detection of emphysema patterns (semantic segmentation)** on chest CT scans
- Emphysema detection pipeline was integrated in their commercial product - "ChestOMX" expanding the scope of diseases covered by current detection software by 25%
- The Neural Network model is based on **nnU-Net**; comparing the accuracy of nnU-net - **93%** over the traditional segmentation models (2D-Unet , 3D-Unet), and prove/ disprove the advantages propagated in 3+ research papers
- Worked under Dr. S. S. Sridhar (Head of Computer Vision department and chairman of IET Chennai Local Network)

Web Developer Intern - PAPERTRUE

Jul 2021 - Oct 2021

Editing and proofreading startup, with over 50,000 clients across 4 locations- US, UK, Singapore, and India

Skills: MongoDB, Angular, NodeJs, ExpressJs, TypeScript

- Revamped the e2e UI/UX design for a high-customer traffic portal on the firm website ('Resources')
- Increased prospect **dwell time by 60%+** within one month of deployment, leveraging **5+ research papers** to improve the UX

OTHER PROJECTS

Impact of Bone Suppression on Tuberculosis Detection

Jan 2023 - May 2023

- Developed an autoencoder model to perform bone suppression on CXR, increasing the accuracy of detection of tuberculosis by **4%** on pre-existing models.

Automated Speech Generator From Sign Language | Computer Vision, NLP

Sept 2022 - Nov 2022

- Developed a real-time **speech generator from Sign Language**, with an **accuracy of 95%** to aid speech impaired citizens in conversing during video conferences

Ischemic Stroke Segmentation and Prediction | Computer Vision

Oct 2022 - Dec 2022

- Developed algorithms to perform image segmentation on **fMRI** images **to improve accuracy of brain stroke prediction by 7-10%**