UTKARSH SINHA

+ (91) 9874565555,utkarshsinhap1@gmail.com

EDUCATION

University of Illinois - Urbana Champaign Fall 2023
Incoming Masters in Computer Science (MCS)

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

NATIONAL UNIVERSITY OF SINGAPORE - Academic Intern Jun 2022 - Jul 2022
Global Academic Internship Programme (GAIP) is a month-long internship offered via a collaboration between NUS and HP Singapore

- 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**

PMX - Research intern Jan 2022 - Jun 2022
South Korean startup focusing on AI-based diagnostics, backed by Intervalue Partners and Korea Alternative Investment, among others

- 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)

PAPERTRUE - Full Stack (MEAN) intern Jul 2021 - Oct 2021
Editing and proofreading startup, with over 50,000 clients across 4 locations- US, UK, Singapore, and India

- 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

PEGASUS FININVEST - Web developer Nov 2021 - Feb 2022
Impact investment VC firm (AUM of $40mn) focusing on healthcare , education & environment

- **Led a team of 3** development interns to design and deploy the official fund website; working under direct supervision of the CEO
- Developed a **CMS** portal from scratch for easy access and modifications; currently leveraged by fund's IT team

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.
- Project was under the guidance of Dr. C. Vijayakumaran (School of Electronics and Computation, SRM IST)

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%**
- Project is under the guidance of Dr. Ruhan Bevi (School of Electronics and Computation, SRM IST)

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
- Project was under the guidance of Dr.Vijayakumaran (School of Computing Technology, SRM IST)

Skin Cancer Detection Web Application | Computer Vision , Web Dev Mar 2022 - May 2022

- Developed and implemented a **custom classification** model for early detection of skin cancer from mole images **with 84% accuracy**; created a web application / front end portal for user inputs using **Flask and React**
- Project was under the guidance of Prof. Mukesh Krishnan (School of Computing Technology , SRM IST)