Garima Nishad

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Education

International Institute of Information Technology(IIIT) Hyderabad, India
MS by Research, CGPA: 9 *Jan. 2020 – July 2022*

Courses: Digital Image Processing, Topics in Machine Learning, Probabilistic Graphical Models, Statistical Methods in AI, Machine Learning for Natural Sciences, Intro to Cognitive Science.

SRM College Of Engineering & Management Lucknow, India
Bachelor of Technology (Computer Science) *Aug. 2014 – May 2018*

St. Mary's Convent Inter College Lucknow, India
High School *July 2002 – May 2014*

Experience

Research Assistant(MS by Research) Jan. 2020 – Present
International Institute of Information Technology(IIIT) *Hyderabad, India*

- Developed a medical six class image classification model and a web API with 99.13% sensitivity and 95.69% specificity which includes the dataset from two distinct devices (Leica Envisu & Copernicus). Worked in collaboration with University of Leicester(UK) and my advisors Dr. Girish Varma and Dr. CV Jawahar. Research paper published.
- Implemented and developed a novel segmentation model for accurate detection of ten layers of the retinal scans for both Bioptigen & Copernicus machines with a 83.4% mean IoU . Research paper in progress.
- Built a gaze tracking model for detection of nystagmus disease present in the eye. Research paper in progress.

Data Scientist July 2021 – Present
Extramarks Education Pvt Ltd *Noida, India*

- Streamlined a handwritten OCR & OMR detection pipeline.
- Optimized a model to detect equations in an image and their latex conversion with 91% accuracy.
- Created a Machine Learning pipeline for the authoring tool. Research paper is in progress.

Artificial Intelligence Engineer Apr. 2021 – June 2021
Beyond Drops Pvt Ltd (Zuqo IT & Services) *Bengaluru, India*

- Developed a human expression classification model for kiosk operation.
- Created an in-browser working model for real-time client-side prediction with 95% accuracy at 9fps.

Machine Learning Independent Contractor Sept. 2020 – Dec. 2020
Quantfolio AI LLC *Seattle, Washington*

- Developed a stock predictor that takes in the data of the current stock pattern and devises the following pattern.
- Implemented a financial stock research paper into code.

Machine Learning Research Intern Mar. 2019 – Dec. 2019
International Institute of Information Technology(IIIT) *Hyderabad, India*

- Developed an Inference engine for inference time prediction of a network without any deployment. ADB shell automation for TF-lite conversion and inference time calculation on an android emulator via terminal.
- Achieved state-of-the-art 97.4% accuracy in image automation of pediatric Retinal OCT scans tests in collaboration with the University of Leicester, UK on the dataset provided by Dr Mervyn Thomas(NIHR Academic Clinical Lecturer). Research paper published.

Intel AI Ambassador Jan. 2019 – Jan. 2022
Intel Corporation *Hyderabad, India*

- Won Intel AI International Summer Challenge Levels 1-5, 2019.
- Organized event meetups & invariably contribute to Intel dev-mesh open-source projects and blog posts.

Tech Blogger Jan. 2019 – Present
Medium Blog(Towards Data Science & Analytics Vidhya) *Hyderabad, India*

- Top published writer in the highly recognised featured Machine Learning publications with 100K+ reads/post.

- Created own blog for core Deep Learning techniques known as "CodeComputerVision" with incoming traffic of 500+ views/day.

Computer Vision, Data Structure/Algorithms Mentor & Project Reviewer Apr. 2019 – July 2020
Udacity *Hyderabad, India*

- Increased computer vision degree graduation success rate by 70% for the year 2019.
- Conducted eight webinars for Deep Learning core concepts & 1:1 guidance for projects.
- Conducted twenty three final round technical interviews for eligible computer vision mentors.
- Gave precise code correction remarks for 700+ students' projects.
- Contributed to 35% of knowledge forum FAQs for three projects: Facial key-point detection, Automatic image caption generator and Simultaneous localization and mapping(SLAM).

Publications

1. **G. Nishad, H. J. Kuht, M.G. Thomas, G. Varma, et al. Using Artificial Intelligence (AI) to distinguish between normal and abnormal development of the fovea. BIPOSA Conference, Edinburgh, 2019.**
   - This work has received six national and international prizes and was funded by the Medical Research Council (MRC), UK - Confidence in Concept award.
   - Won annual award for the best paper and the best abstract presentation.
   - Presented the research paper at the Academy of Medical Sciences(AMS), 2019.
2. **G. Nishad, H. J. Kuht, S. Wang, S. George, et al. Using artificial intelligence (AI) to classify retinal developmental disorders. Investigative Ophthalmology & Visual Science, 61(7):4030–4030, 2020.** [Link]
   - Invited to present paper in The Parliamentary & Scientific Committee's STEM for BRITAIN.
   - Invited to talk in "Women in Vision UK, 2020" in The UK's largest optical event "100% Optical" at "Future Practice Hub".
3. **G. Nishad, H. J. Kuht, G. Varma, et al. Development and Validation of a Deep Learning Algorithm to Differentiate between Normal and Abnormal Retinal Development. British Congress of Optometry and Vision Science(BCOVS) conference, 2020.**
   - Won award for annual best oral presentation.
4. **G. Nishad, H. J. Kuht, S. S. Wang, G. Maconachie, et al. A machine learning solution to predict foveal development and visual prognosis in retinal developmental disorders. Investigative Ophthalmology & Visual Science, 62(8):2739–2739, 2021.** [Link]
   - Presented the paper at an eye genetics conference in London (UK-EGG) as a poster presentation.
   - Won the best poster presentation award at UK-EGG.
5. **G. Nishad, H. J. Kuht, G. D. Maconachie, J. Han, et al. Genotypic and phenotypic spectrum of foveal hypoplasia: A multi-centre study. Ophthalmology, 2022.** [Link]
   - Largest multi-centre collaboration on foveal hypoplasia with novel insights into genotype-phenotype correlations.
6. **G. Nishad, A. Girach, H. J. Kuht, J. Han, et al. Variability of outer retinal hyper-reflective bands detected using optical coherence tomography. Investigative Ophthalmology & Visual Science, 2022.** [Link]

Technical Skills

Languages: Python, C, HTML/CSS, Java/J2EE.
Libraries/Frameworks: PyTorch, TensorFlow, Keras, Fast.AI, OpenCV, Pandas, NumPy, FastAPI, Streamlit.
Developer Tools: Git, AWS, Google cloud platform(GCP), Jira, Visual Studio Code, PyCharm.
Competitive Programming: Data Structures & Algorithms, Leetcode.