Akshay Shilhora

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Objective

A passionate researcher with an understanding of deep learning and Web development. This distilled knowledge is used for solving research problems by providing an action-oriented solution.

Work Experience

Aug 2020 – Jun 2021

VNR VJIET

Research Assistant

a) Research project: Automatic Diagnostic Model for malaria parasites Detection from microscopic Images.

b) Research project: Machine Learning Approach for Plant Disease Identification using Leaf Images

c) Research project: To analyze the finger tip that aids to diagnose cardiovascular diseases using Photoplethysmography (PPG) technique

Supervisor: Dr. G. Madhu, Dr. D. Srinivasa Rao, Dr. N. Mangathayaru.

Volunteer Experience

ACM Student Chapter, VNR VJIET
Jul 2018 — Mar 2020
Programming Tutor, Webmaster and Student Volunteer
Web Development: Conducted a Workshop on Web development as an instructor.
Organized and volunteered various Workshop and Hackathon.

Education

2018 – 2021
Bachelor's — **B.Tech in Information Technology**
VNR Vignana Jyothi Institute of Engg. & Technology

2015 – 2018
Diploma — **Diploma In Computer Science**
Vijay Rural Engineering College

2014 – 2015
School — **Secondary Education**
Blue Bells Model School

Key Attributes

- Determined to make a difference to individuals and communities.
- Action-oriented, self-motivated, result-focused and patient.
- Willing to step outside the comfort zone to cultivate diverse skillset.

Research Interest

Research Domain	Computer Vision, Deep Learning, Reinforcement Learning, Image/Video Processing
Research Interest	Representation Learning, Self-Supervised Learning, Interpretability, CNNs, Segmentation, Object Detention

Technical Skills

Languages	Python, JavaScript, C++
Libraries	Scikit-learn, Pytorch, Kears, TensorFlow
Web & Mobile	React, React-Native, Nodejs, HTML, CSS
Databases	Mongodb, MySQL

Certifications

Certification At VNRVJIET	Introduction to Python - Mr. I. Pavan Kumar *Machine Learning – Dr. G. Madhu*
Certification At Coursera	Deep Learning Specialization - DEEPLEARNING.AI *Machine Learning Specialization – UNIVERSITY OF WASHINGTON*

Research Projects

To analyze the finger tip that aids to diagnose cardiovascular diseases

Performed study on PPG and ECG data, collected real-time data and pre-processed using DT-CWT technique. Further, we used LSTMs and GRUs to detect the cardiovascular diseases. Developed a complete diagnosis framework. This Project funded under **JNTUH/TEQIP-III** scheme and Supervised by: **Dr N.Mangathayaru**

Machine Learning Approach for Plant Disease Identification using Leaf Images

Performed study on Conv-nets and utilized visuial attention approach to detect the leaf infection. Developed a industry oriented solution by creating a mobile application and back-end neural architecture. funded under: **JNTUH/TEQIP-III** scheme and Supervised by: **Dr D.Srinivasa Rao**

Automatic Diagnostic Model for malaria parasites Detection from microscopic Images

Performed study on capsules network and utilized, modified it to routing mechanism to create performant solution for segmentation and detection of malaria parasites. Further, also embedded the model into website. funded under: **JNTUH/TEQIP-III** scheme and Supervised by: **Dr G.Madhu**

Achievements & Participations

- Achieved 2^{nd} position in hackathon conducted at JNTUCES(2020).
- Achieved 3^{rd} position in Web-development hackathon conducted by CSI Chapter.
- Attended various workshops regarding AI, TensorFlow and Ethical AI.
- Participated in Entrepreneurship event Ecficio (2018 and 2019).

References

Dr.N.Mangathayaru, Professor
Deaprtment of Information Technology
E-mail : mangathayaru_n@vnrvj iet.in

Dr.G.Madhu, Professor
Deaprtment of Information Technology
E-mail : madhu_g@vnrvj iet.in

Dr. D.Srinivasa Rao, Associate Professor & Head
Deaprtment of Information Technology
E-mail: ithead@vnrvjiet.in

Research Publication

Lalith Bharadwaj B, K. Sai Vardhan, **Shilhora Akshay**, G.Madhu
Improvising the Learning of Neural Networks on Hyperspherical Manifold.
Published at LMRL workshop at NeurIPS 2021.
https://arxiv.org/abs/2109.14746

D. S. Rao, B. R. Chandra, V. S. Kiran, K. Srinivas, **S .A. Patel**, G. S. Mohan, B. Lalith. Bharadwaj
Plant Disease Classification Using Deep Bilinear CNN.
Published at Intelligent Automation and Soft Computing (IASC), 2021.
http://dx.doi.org/10.32604/iasc.2022.017706

G. Madhu, A. Govardhan, B. S. Srinivas, **S. A. Patel**, B. Rohit, and B.Lalith Bharadwaj
Capsule Networks for Malaria Parasite Classification: An Application Oriented Model.
IEEE International Conference for Innovation in Technology (INOCON), 2020
https://doi.org/10.1109/INOCON50539.2020.9298425

M. Nimmala, B. P. Rani, V. Janaki, S. M. Gajapaka, **S. A. Patel**, and B. Lalith Bharadwaj
An Imperative Diagnostic Model for Predicting CHD using Deep Learning.
IEEE International Conference for Innovation in Technology (INOCON), 2020.
https://doi.org/10.1109/INOCON50539.2020.9298423

N. Mangathayaru, B. P. Rani, V. Janaki, **S. A. Patel**, G. S. Mohan, B. Lalith. Bharadwaj
An Imperative Diagnostic Framework for PPG Signal Classification Using GRU.
ICAICR 2020. Communications in Computer and Information Science, Springer, Singapore.
https://doi.org/10.1007/978-981-16-3660-8_57