Chinmay Savadikar

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EDUCATION

MS+PhD, North Carolina State University — Aug. 21 – May 2028 (Expected)
Department of Electrical and Computer Engineering
Advisor: Dr. Tianfu Wu

Bachelor of Engineering, University of Pune — Aug. 2014 – May 2018
Electronics and Telecommunication Engineering

RESEARCH EXPERIENCE

iVMCL, NC State University — May 2022 – Present
Graduate Research Assistant
Advisor: Dr. Tianfu Wu
- Working on Continual Learning for Computer Vision

Precision Sustainable Agriculture, NC State University — Dec. 2021 – Aug. 2022
Graduate Student Researcher
Mentor: Dr. Søren Skovsen
- Developed a cloud-based platform for semi-supervised annotation of crop images for the BenchBot project
- Developed algorithms for coordinate transformations from image to global coordinate systems

INDUSTRIAL EXPERIENCE

Persistent Systems Ltd.
Senior Software Engineer — Apr. 2021 – Jun. 2021
Software Engineer — Mar. 2019 – Mar. 2021
Intern — Jul. 2018 – Mar. 2019
- Built robust Deep Learning models for Tumor Cell Detection and Automated Document Recognition
- Helped set up MLOps frameworks for versioning and deploying models
- Authored Python SDKs for stardardized model training and evaluation

PUBLICATIONS

Brain Tumour Segmentation Using Probabilistic U-Nets
C. Savadikar, R. Kulhalli, B. Garware
MICCAI Brainlesion Workshop
https://doi.org/10.1007/978-3-030-72087-2_22

Towards Designing Accurate FISH Probe Detection using 3D U-Nets on Microscopic Blood Cell Images
C. Savadikar, S. Tahvilian, L. Baden, R. Reed, D. Leventon, P. Pagano, B. Garware
CODS-COMAD 2020
https://doi.org/10.1145/3371158.3371201

A Hierarchical Approach to Skin Lesion Classification
R. Kulhalli, C. Savadikar, B. Garware
CODS-COMAD 2019
https://doi.org/10.1145/3297001.3297033

Projects

Continual Learning in Computer Vision | *NC State University*   Jan. 2022 – Apr. 2022
- Explored memory – based approaches and their limitations on diverse tasks
- Replicated and extended "Learn to Grow", a dynamic model – based approach

Document Recognition Platform | *Persistent Systems Ltd.*   Aug. 2020 – Jun. 2021
- Trained joint image and text Deep Learning models for document classification into 500+ categories, with an F1 score of 0.97
- Developed MLOps pipelines for model versioning and deployment to AWS SageMaker
- Created scripts for distributed image and text data processing using PySpark for ∼350,000 data points
- Improved team collaboration by creating Python SDKs for distributed model training and evaluation

Tumor Cell Detection | *Persistent Systems Ltd.*   Mar. 2019 – Mar. 2020
- Developed Image Processing algorithms for accurate cell segmentation from microscopic blood scan images
- Trained Deep Learning segmentation models for detecting chromosomes in 3D blood scan images
- Reduced false positive rate by 62.87%, increased recall from 72.9% to 94.72% over the commercial software
- Built a fast prediction framework for ∼300k images using multi-GPU and multiprocessing parallelism

Technical Skills

Programming: Python, MATLAB, C++
DLibraries: TensorFLow, PyTorch, Horovod, scikit-learn, NumPy, OpenCV, MLflow, PyTest
Data Processing: PySpark (Spark), Pandas, SQL
Tools: Docker, Git, JIRA, AWS Sagemaker, Databricks