

# Chinmay Savadikar

✉ [csavadi@ncsu.edu](mailto:csavadi@ncsu.edu) | 🌐 [savadikarc.github.io](https://github.com/savadikarc) | [in savadikar-chinmay](https://www.linkedin.com/in/savadikar-chinmay) | 📀 [savadikarc](https://github.com/savadikarc)

## EDUCATION

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**MS+PhD, North Carolina State University**  
*Department of Electrical and Computer Engineering*  
Advisor: Dr. Tianfu Wu

Aug. 2021 – May 2028 (Expected)

**Bachelor of Engineering, University of Pune**  
*Electronics and Telecommunication Engineering*

Aug. 2014 – May 2018

## RESEARCH EXPERIENCE

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**iVMCL, NC State University**  
*Graduate Research Assistant*

May 2022 – Present

Advisor: Dr. Tianfu Wu

- Working on Continual Learning for Computer Vision

**Precision Sustainable Agriculture, NC State University**  
*Graduate Student Researcher*

Dec. 2021 – Aug. 2022

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

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**Persistent Systems Ltd.**  
*Senior Software Engineer*  
*Software Engineer*  
*Intern*

Apr. 2021 – Jun. 2021

Mar. 2019 – Mar. 2021

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 standardized model training and evaluation

## PUBLICATIONS

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*Brain Tumour Segmentation Using Probabilistic U-Nets*

C. Savadikar, R. Kulhalli, B. Garware

MICCAI Brainlesion Workshop 2020

[https://doi.org/10.1007/978-3-030-72087-2\\_22](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

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- Continual Learning in Computer Vision** | *NC State University* Jan. 2022 – Apr. 2022
- Explored memory – based approaches and their limitations on diverse tasks
  - Replicated “Learn to Grow”, a dynamic model – based approach
  - Extended the approach to use Stochastic Neural Architecture Search and Unified Neural Architecture Search, and performed comparative analysis
- 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

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**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