

Soumik Mallick

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3 Place des Erables, Etage 5,
94470, Boissy Saint Leger, France

Skills

SOFTWARE

Python, C, C++, JAVA, AngularJS, HTML,
Matlab, OpenGL,
Tensorflow, Caffe, Pytorch, OpenCV, Unity

MACHINE LEARNING

HMM, SVM, Randomforest,
Natural language processing

COMPUTER VISION

HOG, HOF,
HarrisCorner, SIFT,
SURF, Camera Calibration

VIDEO QUALITY

PSNR, SSIM, Quality index, bitstream

COMMUNICATION SKILLS

English : Native speaker
Hindi : Native speaker
French : Beginner
Bengali : Native speaker
Sanskrit : Fluent

Coursework

Computer Vision

Deep learning
Virtual and augmented reality
Machine learning and pattern recognition
Data analysis and statistics
Image Processing
Color and Multispectral Imaging
Calculability and Complexity

Education

2003 – 2006

ELECTRONICS AND TELECOM
DIPLOMA ENGINEERING, WBSCTE,
India

2006 – 2009

BACHELOR: ELECTRONICS
WBUT, India

2015 – 2016

MASTER 2: OPTICS, IMAGE VISION
AND MULTIMEDIA
UPEC, France

Work Experience

2022- PRESENT **LARCA (CNRS, Université Paris-Cité).** **Research engineer**

We are working with Armed conflicts in photographs from 1890-1914 and historical document layout analysis. We already developed encoder-decoder architecture based on transformers and attention models for multi-object detection in war photography. Our layout parser is based on Mask R CNN and Faster R CNN with detectron2 for historical document layout analysis.

2021-2021 **ENSTA Paris** **Deep learning research engineer**

Working with unsupervised domain adaptation tasks and unsupervised learning tasks for object re-ID, including person re-ID and vehicle re-ID using Cascade R-CNN, Deep Hungarian Net, particle filter, Faster R-CNN, Dataset: PersonX, VeRi, market1501, MOT20.

2020 – 2020 **ENSICAEN-CNRS** **Research engineer: Computer vision**

Feature extraction and feature matching, Segmentation. 3D convolutional neural network. Generative Adversarial Networks (GANs) for synthetic data generation, Hardware-software integration. Also work with 3D U Net for 3D ultrasound data.

2017-2019 **INRIA Sophia Antipolis** **Research engineer: Computer vision**

Long term daily living activity recognition using HOG, HOF, Deep TDD features, Trajectory detection, Optical Flow, Extract Angle Distance Features, Deep Network. Dataset: DAHLIA, GAARD, CHU. Update SUP platform, dtk, and work with CHU de Nice

2016-2016 **Pierre and Marie Curie University** **Research Intern: Text-Mining**

Automated and comprehensive literature analysis: application to biomarkers of cardiovascular aging. Finite State Machine- HMM to identify the biomarkers in our PubMed database.

Lab Projects

2015 **Video-based Human Action Recognition**

2015 **Adaboost Feature Selection Task**

2015 **IRIS Segmentation**

2016 **Invariant Feature Comparison**

Projects

2018 **INRIA StoreConnect project** **(Sensor data fusion and video surveillance)**

Video analysis helps to manage complex cases (like greater density of people, shopping cart and tracking by multi-camera throughout the store. Working with real-time people detection, Single shot multibox detector (SSD), event recognition, trajectory detection, multiple camera setup, multiple sensor data fusion, Ontology API.

2015 **3D Reconstruction** **(Computer Vision)**

Reconstruction algorithm computes the 3D model with maximum volume that is consistent with the set of region in the input images. Use only 2D intersection operations, and directly computes a polygonal model.